DR WELLS PRENATAL HANDBOOK

As you begin this journey of creating life, I welcome the opportunity to care for you and share in this adventure. It is the collective goal of each member of our practice for you to have a wonderful experience, both in becoming a new mother (or a mother again) and also as a patient in our practice. I have put together this interactive handbook to help orient you to our office. I feel we run the most efficient kind of practice possible, given the extremely erratic nature of our business. We try to run on time, at all times, despite deliveries and emergencies that may cause us to run late or require rescheduling of appointments. You can be sure that if we are running late, it's usually because we are trying to give another patient the time she needs. As always, our primary goal is for our physicians, midwives, nurse practitioners, and staff to provide you with the most positive pregnancy experience possible.

Welcome to the start of the Great Adventure!

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TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

ONBEING A
MOTHER

We are sitting at lunch when my daughter casually mentions that she and her husband are thinking of "starting a family." "We're taking a survey," she says, half-jokingly. "Do you think I should have a baby?" "It will change your life," I say, carefully keeping my tone neutral. "I know," she says, "no more sleeping in on weekends, no more spontaneous vacations."

But that is not what I meant at all. I look at my daughter, trying to decide what to tell her. I want her to know what she will never learn in childbirth classes. I want to tell her that the physical wounds of childbearing will heal, but that becoming a mother will leave her with an emotional wound so raw that she will forever be vulnerable. I consider warning her that she will never again read a newspaper without asking, "What if it were MY child?" and that every plane crash, every house fire, will haunt her. That when she sees pictures of starving children, she will wonder if anything could be worse than watching your child die.

I look at her carefully manicured nails and stylish suit and think that no matter how sophisticated she is, becoming a mother will reduce her to the primitive level of a bear protecting her cub. That an urgent call of "Mom!" will cause her to drop a soufflé or her best crystal without a moment's hesitation. I feel I should warn her that no matter how many years she has invested in her career, she would be professionally derailed by motherhood. She might arrange for childcare, but one day she will be going into an important business meeting and she will think of her baby's sweet smell. She will have to use every ounce of her discipline to keep from running home, just to make sure her baby is all right.

I want my daughter to know that everyday decisions will no longer be routine. That a five-year-old boy's desire to go to the men's room rather than the women's at McDonalds will become a major dilemma.

That right there, in the midst of clattering trays and screaming children, issues of independence and gender identity will be weighed against the prospect that a child molester may be lurking in that restroom. However decisive she may be at the office, she will second-guess herself constantly as a mother. Looking at my attractive daughter, I want to assure her that eventually she will shed the pounds of pregnancy, but she will never feel the same about herself. That her life, now so important, will be of less value to her once she has a child. That she would give it up in a moment to save her offspring, but will also begin to hope for more years – not to accomplish her own dreams, but to watch her child accomplish theirs.

I want her to know that a cesarean scar or shiny stretch marks will become badges of honor. My daughter's relationship with her husband will change, but not in the way she thinks. I wish she could understand how much more you can love a man who is careful to powder the baby or who never hesitates to play with his child. I think she should know that she would fall in love with him again for reasons she would now find very unromantic. I wish my daughter could sense the bond she will feel with women throughout history who have tried to stop war, prejudice and drunk driving. I hope she will understand why I can think rationally about most issues, but become temporarily insane when I discuss the threat of nuclear war to my children's future. I want to describe to my daughter the exhilaration of seeing your child learn to ride a bike. I want to capture for her the belly laugh of a baby who is touching the soft fur of a dog or a cat for the first time. I want her to taste the joy that is so real it actually hurts…

My daughter's quizzical look makes me realize that tears have formed in my eyes. "You'll never regret it," I finally say. Then I reach across the table, squeeze my daughter's hand and offer a silent prayer for her, and for me, and for all of the mere mortal women who stumble their way into this most wonderful of callings. This blessed gift from God…that of being a Mother.

Author Unknown

FIRST THINGS FIRST

ABOUT THIS HANDBOOK

Welcome! I'm inviting you to read over this handbook—a passion project built on years of research—my hope it will become your trusted source for answers to commonly asked questions during and after pregnancy. It's recommended that you keep it easily accessible and save it to your iPad and/or desktop. Get familiar with this handbook and keep referring to it when common and uncommon questions arise.

BY YOUR NEXT VISIT: **It is important that you take care of a few things as soon as possible.**

1. Schedule an Appointment For Your 1st Official OB Visit
(we call it a "New OB" visit)
This visit should happen at around 12 weeks of pregnancy. We will review your medical and pregnancy history, perform a complete physical exam if needed, and review some basic pregnancy information.

2. Have Your Blood Drawn
We will give you a lab slip for routine state-mandated lab tests. Please make sure to go to a lab approved by your insurance.

3. Decide On Which Genetic Screening Tests, If Any, You Would Like To Do
They are time-sensitive tests. Please read more about these in the **genetic testing section.**

a. The Nuchal Translucency Screening Test
Call Diablo Valley Perinatal Associates ASAP for an appointment between 11 and 14 weeks (they book up appointments quickly—if you wait too long to call for an appointment, you will not be able to do this test). We will provide you with a referral slip.

b. Non-Invasive Prenatal Test (NIPT).

c. Carrier Screening
For more serious conditions that can be passed on through the parents.

4. Schedule your Level 2 Fetal Ultrasound Appointment
This is done during the second trimester of your pregnancy, around 20 completed weeks. This is also done in the office of Diablo Valley Perinatal Associates by physicians who are specially trained to use ultrasound to look for birth defects.

a. **If you will be less than 35 years of age by your due date**
Call to schedule the appointment for around 20 weeks.

b. **If you will be 35 years of age by your due date and want genetic counseling**
Call to have genetic counseling and possibly an amniocentesis or chorionic villus sampling (CVS), you should set up the appointment as soon as possible.

c. **If you will be 35 years of age by your due date and know that you do not want genetic counseling or an amniocentesis**
Unless the First Trimester screening test (NIPT) comes back abnormal, please call to set up an appointment for around 20 weeks.

OKAY, NOW THAT WE'VE COVERED THE TIME-SENSITIVE STUFF, ON TO THE REST...

ABOUT
OUR PRACTICE

Our practice provides a collaborative and patient-centric experience for the women who choose us for their obstetric care. We strive to provide more personalized care and provide what I often refer to as "Nordstrom' service. As a result, I feel our patients appreciate how our office allows for the formation of more personal relationships. We are a close-integrated small group of physicians, certified nurse midwives, and certified nurse practitioners. We work together seamlessly and share the same workspace in our office specifically so we can collaborate on specific and general patient care issues.

Our practitioners have collectively delivered well over 10,000 babies

Our knowledge base is derived from years of training, study, and analysis of current evidence-based medicine. In a world where both good and bad information is available at our patient's fingertips, we can help provide you with accurate information that goes above and beyond the whimsical information put out on the internet.

Many practices in our area are part of extended call groups so that at the time of delivery, women may be delivered by someone they have never met. Although we are also in an extended call group for nighttime phone calls, we have two physicians and two midwives continuously on call for deliveries, so it is an incredibly rare experience that our patients are delivered by someone outside of our practice. By incredibly rare, we mean about 1% of all women we care for are delivered by providers outside of our practice, usually because women present to Labor & Delivery and deliver immediately on arrival (a very rare event for the 1st child).

FOR NEW PATIENTS

If you are new to our practice, your next question may be "what's the difference between a Nurse Practitioner and a Midwife?" Nurse Practitioners are highly qualified, well-trained professionals who are actively involved with childbirth and health education and provide high-quality prenatal and gynecologic care. They are often able to spend more time answering questions than our physicians and will be able to continue seeing patients in the office when we are called out to attend deliveries or handle potentially life-threatening emergencies.

Midwives, on the other hand, can see patients in the office, but are also highly qualified and trained to manage labor and deliver women with low-complexity pregnancies. They have a more holistic approach to pregnancy and the labor process but also utilize medications for labor augmentation when appropriate and pain relief when desired by the patient. They cannot, however, perform cesarean sections or forceps/vacuum-assisted deliveries, although they enjoy assisting in these procedures. Interestingly and as expected, midwives have a very high success rate in helping patients achieve vaginal deliveries without requiring these operative procedures.

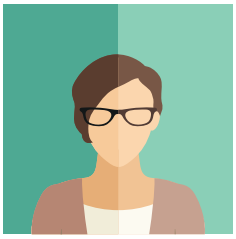
During your care in our office, we would love for you to alternate visits throughout your pregnancy so that you get to know each person who may end up delivering your baby. Each of us possesses a unique perspective and will offer counsel that may be slightly different and provide a greater breadth of wisdom that you may find invaluable. And ultimately, when that special day comes, our desire is, as always, for you to see a familiar face when you deliver.

For more information regarding how our on-call schedule works, please refer to our section regarding **Labor & Delivery.**

WHO'S WHO
IN THE OFFICE

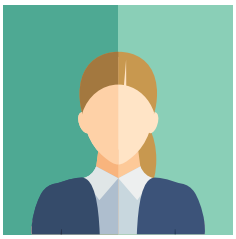
EACH PERSON IN THE OFFICE IS RESPONSIBLE FOR CERTAIN ASPECTS OF PRENATAL CARE
THE FOLLOWING IS A LIST OF THOSE WHO ARE HERE TO HELP YOU:

Our friendly receptionists are often able to accomplish the impossible when it comes to scheduling appointments. They'll be happy to book appointments, answer any medical questions that are already answered for you in this handbook, or direct you to anyone else in the office. Reach them by dialing our **main office at 925-935-5356**. When you call and ask questions that will require us to call you back, please give them every number possible so that we can answer back quickly and easily. At any time during your pregnancy, our receptionist can schedule several appointments in advance for you (absolutely the best way of decreasing any hassles regarding obtaining appointments that work with YOUR schedule).



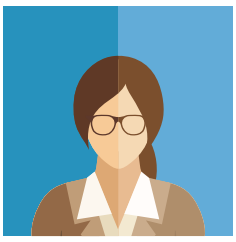
IOLANI
PRACTICE MANAGER + BILLING COORDINATOR

She is able to answer questions related to billing and insurance authorizations. Please call her with billing or administrative questions or suggestions that would help our office run more smoothly (friendly, constructive criticism is always welcome).



KATIE
DISABILITY FORMS

During your pregnancy, you may need us to fill these forms out. When you bring them in, give them to Katie, who will fill them out, place a copy in your electronic chart, and send the original to the appropriate disability department (There will be a charge for this service). Visit our website **https://stephenwellsmd.com/** to do the entire process online (this is by far the easy way).



MARIA
MEDICAL ASSISTANT MANAGER

Maria works with Dr. Wells, leads the MA crew, and is in charge of scheduling all inductions and Cesarean deliveries. She is very capable of giving basic medical information and often relays information to patients on Dr. Wells's behalf. For complex questions, she will relay messages to the doctors, midwives, or nurse practitioners. If you have complex questions, need clarification for induction scheduling instructions, or feel you need to be squeezed in for an urgent appointment, please call and ask to speak with Maria.

IN THE OFFICE

SARAH, IRIS & LARISSA

MEDICAL ASSISTANTS

Our other talented medical assistants, Sarah, Iris, and Larissa help Dr. Thompson, the midwives, and the nurse practitioners. They are great at relaying medical information and answering logistical questions for the providers.

MONICA, COURTNEY & SHY

LICENSED NURSE PRACTITIONERS

Are our licensed Nurse Practitioners, NPs also assist in providing prenatal care. Because their schedules are purposefully less busy, they are usually able to respond to phone-call questions intermittently throughout the day. Dr. Wells and Dr. Thompson usually answer phoned-in questions during the lunch hour (they rarely have time to eat lunch because they are usually at the hospital in surgery or in Labor & Delivery) or after seeing patients scheduled in the afternoon. For any questions about pregnancy (routine/unusual symptoms, concerns, problems, laboratory interpretation, etc.), or if you have any special needs, please call and ask Monica, Courtney, Shy, or one of the midwives.

AMANDA & NICOLE & GABBIE

CERTIFIED NURSE MIDWIVES

Are our Certified Nurse Midwives. We are very proud to offer patients in our practice a wonderful midwife birth experience! Midwives historically provide care to women in childbirth that are associated with lower incidences of cesarean sections and vacuum or forceps use. In regard to the personal benefits of having Amanda, Nicole, or Gabbie attending birth, think of them as the perfect combination of doula and obstetrician: a labor-support person who can also deliver. If a woman's labor changes to a more complex situation requiring an obstetrician for operative delivery, they will continue to be able to provide support before, during, and after delivery.

MIDWIFERY
SERVICES

We are proud to offer our patients an outstanding midwife birth experience. In 2015, after a great deal of coaxing both colleagues and the administration at John Muir Medical Center, the Health System finally allowed well-trained and certified nurse midwives the opportunity to deliver low-risk patients. In response to survey results, where over two-thirds of my patients expressed interest in a midwife option, I began the arduous task of presenting data to John Muir's Obstetrical Department, Committees, and the Board of Directors. Their response was overwhelmingly supportive, and approval was swift. This nine-month journey was finally completed leading to the hiring of the first midwife in our area.

Sonya Jubb, CNM worked with our office until 2021 when she moved to Alta Bates. Shortly after hiring Sonya, I brought on Amanda Machette, CNM, and most recently, I took on Nicole Knight, and Gabbie Perko, adding to our team of compassionate and skilled midwives. We are thrilled to have Amanda, Nicole, and Gabbie on our team and hope you will enjoy all that they're able to offer to make your birthing experience everything you hope it to be.

Common Questions

WHY BRING ON A MIDWIFE, AND NOT JUST TAKE ON ALL PHYSICIANS?

Simply put, to offer our patients another alternative! We appreciate that patients like our style of practice and trust our judgment and skill as physicians, we're also aware that some patients may prefer a more low-intervention experience, and we recognize that midwives have been specially trained to provide such an experience. Midwives also historically provide care to women in childbirth that are associated with lower incidences of cesarean sections and vacuum or forceps use.

96%
of midwives deliver in hospitals→

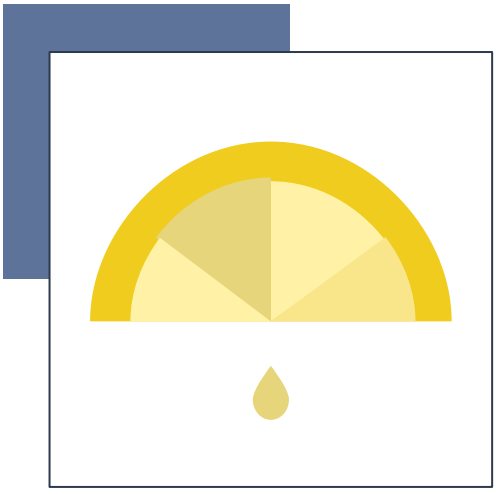
DO MIDWIVES, JUST DO HOMEBIRTHS?

No, midwives don't just do homebirths, in fact, in the U.S. only 2% of midwives do! Another 2% deliver in freestanding birthing centers. The remaining 96% of midwives deliver in the hospital, under the supervision of Obstetricians, and within well-defined policies and procedures. WE DO NOT OFFER HOME BIRTHS. Although we recognize that some couples may choose this option, this is not something we feel comfortable with, at all, ever.

The personal benefit of having a midwife is that they're the perfect combination of doula and obstetrician: a labor-support person who can also deliver. If a woman's labor changes to a more complex situation requiring an obstetrician for operative delivery, she will continue to be able to provide support before, during, and after delivery. As you consider what type of delivery would be best for you, let me explain how care is offered in my office. First, it is important to understand that our midwives only attend low-complexity births, and although they will be available many days to attend the delivery, they may not be available every day. We share in delivering our pregnant moms, and the office activity of the day may dictate who will be present for your delivery – either MD or CNM. Most often, the person on call for the nighttime is also the one who would deliver you during the day. Rarely, you may be delivered by one of our call group colleagues (Christmas Day, Thanksgiving Day, or other unforeseen circumstances) but really, our goal is, as it always has been, to have nearly all of our patients be delivered by a "familiar face" that you've seen for your entire pregnancy.

I CAN'T BELIEVE
I'M PREGNANT

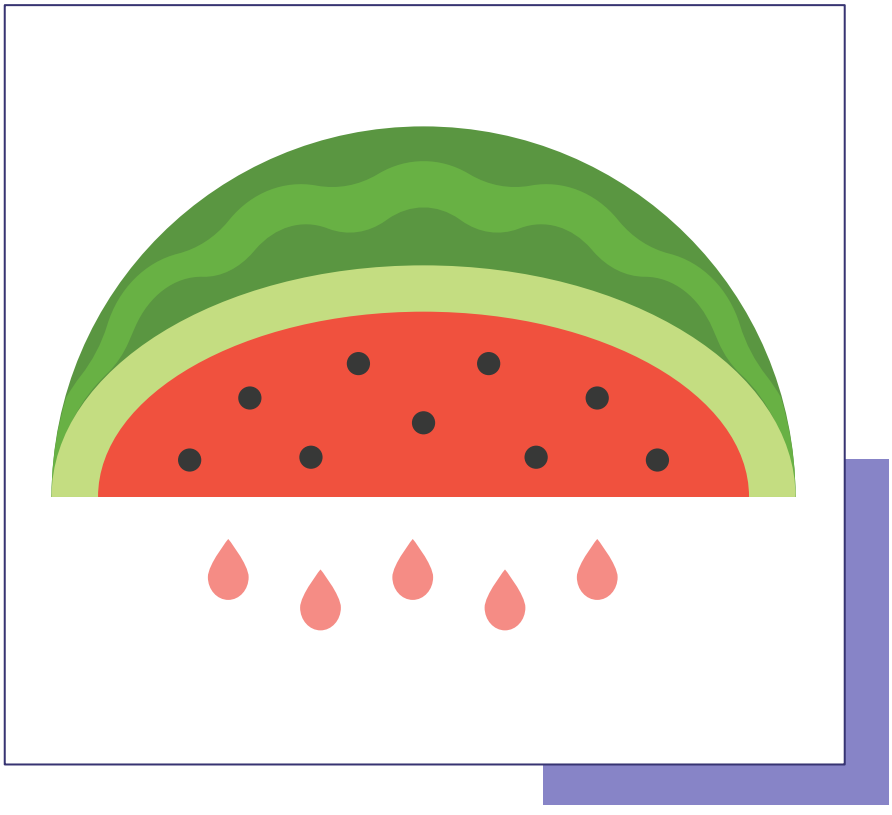
Something truly miraculous has begun within your body, and as this process begins there are several important pieces of information you need to know to get you through the first several weeks. Here is a list of the most common pregnancy-related symptoms you may be experiencing and their significance:



BLEEDING

This is perhaps the most important problem to address in the first few weeks of pregnancy.

Between twenty to twenty-five percent of all women who are pregnant will spot or bleed to some degree in the first several weeks of pregnancy. If an ultrasound examination confirms a living embryo, the risk of miscarriage is about 3–5%. If we are unable to confirm the presence of a beating heart, half of these women will lose the pregnancy, and half will go on to carry their baby to term.



HEAVY BLEEDING

If heavy bleeding occurs, call us during office hours and we'll get you in for an ultrasound evaluation and possibly obtain hormone levels, usually the same day if you call early. **If bleeding is very heavy and you feel unstable (feeling like you may pass out or have difficulty breathing) we may ask you to go to the emergency room. If in the middle of the night there is moderate bleeding only, and you are not experiencing excruciating pain, you may wait until morning to call us**. We are always trying to keep you out of the ER if we can, as it is expensive, and care with regard to miscarriage can be clunky. If bleeding is recent, and your blood type warrants, we will administer an injection of Rhogam, a medicine that prevents a build-up of maternal antibodies that may harm the present or future pregnancy.

NAUSEA AND VOMITING

These symptoms, as common and frustrating as they can be, usually go away by 14 to 16 weeks but can persist for longer. We can give you excellent medications to help if you need them, but sometimes using little tricks can suffice, i.e., eating dry bread or crackers, sipping ginger ale or other clear sodas, sipping the juice from canned peaches or pears, and avoiding foods that make the sensation of nausea worse. Motion sickness wristbands help occasionally. In severe cases of nausea and vomiting, we may need to refer patients to an Urgent Care facility or the ER and rehydrate them with intravenous fluid (which makes you feel, OOOHHH so much better!!!). **Warning signs of significant dehydration are severe headache, dizziness with standing, urinating infrequently with dark-colored urine, a racing heartbeat, vomiting blood, and an inability to keep any liquids down. If you suffer from these symptoms, please call us.** We'll ask you to come in and we'll check your urine. If your symptoms warrant, we'll send you to the hospital or urgent care center to get "tuned up." If your symptoms are prolonged and severe enough, occasionally we will recommend Home Health Services for in-home IV and medication therapy. This is very rare, but if you feel you may be heading in this direction, call your insurance and find out what benefits you may have available to you. The last option would be hospitalization, but I haven't had to admit a patient due to extreme nausea and vomiting "hyperemesis gravidarum" in several years.

CONSTIPATION

Early in pregnancy, progesterone is produced in high amounts and serves to support a pregnancy and prevent bleeding. But progesterone is also considered a "smooth muscle relaxer." Since intestines are made up of "smooth muscle," they relax, slow down and fill up with air, causing bloating and constipation. To combat constipation, drink plenty of fluids. Include juices, such as prune juice. Eat foods high in fiber, such as raw fruits, vegetables, and bran cereals. You may also take stool softeners such as Colace (available at pharmacy stores without a prescription) several times daily. Milk of Magnesia works well too!

PAIN

Some cramping during early pregnancy is normal. We call this cramping "growing pains." Cramping in the absence of bleeding does not represent an impending miscarriage. Severe cramping and pain, however, is outside of what should be expected, contact us if you think it is becoming unbearable.

BREAST TENDERNESS

This is almost inevitable, so be prepared. Wear gradually larger bras that are comfortable, but well supported.

The next section will explain the purpose and flow of prenatal visits ↴

FATIGUE

Extreme fatigue is one of the most common symptoms you may experience. Our advice: Nap if you can. If you have small children, then you know that when they nap you can get things done. But we recommend that you get some sleep instead. **This fatigue will last until about 16 to 18 weeks.**

HEADACHES

These may be very uncomfortable, and migraine sufferers are most likely to experience an increase in frequency and intensity. If you can, get by with extra-strength Tylenol. If you think you need more, please call us. There are excellent medications, especially for migraines, that are safe during pregnancy.

A SCHEDULE
OF VISITS

Visits in our office are set up in a way that is comparable to other physician offices, deviating in areas we feel allow us to provide better care. The following outline of prenatal visits refers to uncomplicated, low-risk patients. Special circumstances in your pregnancy may cause a change in this schedule. Stay flexible on this crazy journey!

12th week

First official Obstetrical (New OB) visit. This appointment will typically be scheduled with any of our providers – Physicians, Midwives, or Nurse Practitioners. We will obtain a thorough history and perform a complete physical examination unless an exam has recently been done in our office. Labs drawn previously (hopefully) will be reviewed. Goals for weight gain, nutrition, and exercise may be reviewed during this appointment. We will answer as many questions as you can throw at us, but it will be hard for us to predict how your pregnancy and delivery will go this early without a quality crystal ball. So, if you have one, bring it.

Monthly

Monthly interval examinations will continue until about 30 weeks. If you have had symptoms of bleeding or cramping, or if you have other concerns, please discuss them with us during these visits. At your 14–16 week appointment, genetic screening tests will be discussed. At 28 weeks, a gestational diabetes screening blood test will be drawn, and we will check for anemia. If you have an Rh-negative blood type, we will give you an injection of Rhogam (a medicine to help protect your baby from maternal antibodies) about 3 days after this visit. Please alternate visits with each potential delivering provider so you can get used to us! You will learn something different from each encounter. Also, feel comfortable seeing the nurse practitioners as well, if we ask that you make appointments with them.

Biweekly

Biweekly (every 2 weeks) examinations will continue from 30 to 36 weeks. These are easy visits. Questions will be answered, and we will check fetal growth and listen to the baby's heart rate. This is a good period of time to interview pediatricians. Bring in your insurance book if you need a referral from a limited number of physicians. Make sure you have registered at the hospital by this time (it should have been done by 15 weeks or so). You may have started and nearly completed childbirth classes by now.

Weekly

Weekly visits will continue from 36 weeks until delivery. In addition to checking growth and fetal heartbeat, we will be checking for changes in the cervix at each visit, beginning at 36 weeks. At each visit until the end, it is important to check the position of your baby. Make sure you have a pediatrician picked out by this time.

Postpartum

A postpartum visit will be scheduled for 6 weeks following your delivery. If you have had a cesarean section, we will have you come in for an incision check at 2 weeks. We will discuss contraception, resumption of sexual activity, exercise, and proper diet, and will set up an appointment for your next annual exam. Please read up on **Postpartum Contraception at the end of this booklet**.

PURPOSE OF
PRENATAL VISITS

Frequent visits to our office serve multiple functions: monitoring you and the baby and educating you about the changes taking place in your body. Most pregnancies are uncomplicated and end in the delivery of a healthy infant to a healthy mom. Although rare, unexpected problems can arise in women with the fewest risk factors. We believe that frequent monitoring of you and your baby can identify problems earlier so that treatments are instituted promptly. The result of this type of care is a greater chance for a healthy outcome.

In addition, questions can be answered regarding the health of your baby, normal and abnormal symptoms experienced during pregnancy, weight gain, exercise and activity restrictions, sexuality, and plans for labor and delivery. We also need a chance to dispel all the myths and folklore taught by the layperson "social professionals" such as sex determined by fetal heart rate or the way you are carrying; head full of hair if you have lots of indigestion; "I can tell your baby has dropped or is too big or is too small," cord entanglement because of raising your arms above your head, etc.

WHAT TO EXPECT IN OUR OFFICE

Your prenatal-care appointments will take approximately 30–45 minutes, 10–15 minutes of which will be face to face with one of our nurse midwives, nurse practitioners, or with Dr. Wells or Dr. Thompson. On the way back to the exam room, one of our medical assistants will ask you to weigh yourself and to provide a urine sample. The urine will be tested for the presence of glucose (indicator for diabetes) and protein (indicator for urinary tract infections that may be present with no symptoms). Protein may also provide evidence of developing toxemia if present in combination with elevated blood pressure. Once in the room, your blood pressure will be taken. If you are 36 weeks or later in your pregnancy or if you are experiencing abnormal uterine activity, you will be asked to undress from the waist down for a cervical examination.

One of our providers will then come in, ask questions, and examine you. **Before twenty weeks**, the exam consists mostly of listening to the baby's heartbeat. **After twenty weeks**, we'll ask more detailed questions about you and your baby and measure your uterus to assess proper fetal growth. **It is very important to tell us if you've experienced a decrease in your baby's typical movement patterns, if you've had vaginal bleeding or unexpected leaking of water from the vagina, or if you've had contractions.** We'll also check for adequate weight gain and answer questions regarding any aspect of your pregnancy. These visits are very short unless you have lots of questions, most of which will hopefully be answered in this handbook.

Like every other OB/GYN office in our area, we do not provide routine ultrasounds during each prenatal visit but refer patients for ultrasounds when appropriate to physicians specially trained and licensed to do so. Please understand our position on this. We used to do them more frequently, but the medico-legal environment we now live in has squelched fun things like that.

Communication with our Office

If you are a patient in the John Muir network, you have the option of signing up for the MyChart patient portal, which allows you to view lab results, request medication refills, and email your healthcare providers. We live in a world of communication by email, texting, etc. This sounds super convenient, but there are a few things to be aware of. **If you want to avoid unnecessary frustration, you should spend time reading and understanding this section!**

- **If you send an email / MyChart message to someone in our practice, it comes to a shared Inbox in our electronic health system** (We use Epic, and you can reach us through your MyChart app). We all take turns responding to emails, so you may receive a response from a different provider than the one you addressed in the email/message. If you are wanting to discuss something deeply personal and wouldn't want someone else other than a specific provider reading that information in an email, it's better to call us and ask for that specific provider to call you back. Also, keep in mind that not all providers work every day, so it may take a few days to get a call or an email back if you're requesting a call from a specific provider.
- **Emails are not text messages.** They should be simple questions, requiring a short and straightforward answer. If more than one exchange is required, we will ask you to come in for an appointment or better yet we would appreciate your saving the questions for your next appointment. This is just a practical request. We try our best to answer these throughout the day. If an email conversation occurs over 3 days with back-and-forth questions and responses, that is hardly good care. Often, the same dialogue can be completed in a matter of 2 minutes. Plus, we enjoy human interaction much more!
- Please be aware that these emails are stored and become a permanent part of your medical record.
- **It may take us 24-72 hours to respond to emails**. Emails sent after 4:00 pm on Friday will not be seen until Monday and may not be returned until after that day. We do not monitor the Inbox after hours, on holidays, or over the weekend. Again, please send emails that absolutely cannot wait until your next appointment. If you have questions that can wait, then wait.
- **If you're having an urgent issue, please call us, and don't email**, even if it's after hours. There's no such thing as an urgent email! Our front desk staff are great at pulling us out of rooms and having us take urgent phone calls right away and an email may not be opened until the end of the day or after the weekend. So please don't email if you think your water has broken, you might be in labor or your baby isn't moving well—these are potentially urgent issues that we need to address more promptly than email allows.
- Similarly, we may call you back in response to your email. It is often much more efficient for us to address an issue over the phone or at your next prenatal appointment than to exchange multiple emails back and forth. It is not unusual for our providers to receive 40+ emails and 30+ phone calls in a day, so **we do our best to triage and get back to patients in an efficient and timely manner.**

- **For urgent issues when the office is closed (nights, weekends, holidays), you have the option of reaching an on-call provider.** To reach the on-call provider, call our office at (925) 935-5356 and follow the prompts to reach the answering service. Keep in mind that although we are on call, we are not necessarily sitting by the phone hoping someone calls in. **We never mind when patients call for urgent issues after-hours but please respect our time out of the office. If your issue can wait until the office is open, please wait.** You may be surprised how many times after stumbling into bed and falling asleep at 3 am, exhausted after a long night of Labor and Delivery, we are woken up by a patient calling us out of frustration because she couldn't sleep. Yeah, hard to believe, but true.
- **Some email "don'ts":**
    - Please don't email us with questions about the Ingredient Safety Review of any non-prescription medication or supplement you may be taking. It is a waste of time. If it is a non-prescription vitamin or supplement or something else you may have bought on the internet because your friend told you it was the best thing ever, **we promise you it was not studied in pregnant women for safety, so our answer will universally be "we don't know about this one", and you will not get the answer you are seeking**. These items may have a statement such as "Speak with your Doctor before taking these" on their labels, but again, we will not have any more information about them than can be found at **mothertobaby.org**.
    - Please don't email us with questions that can wait until your next appointment. We know questions come to mind and you want to get an answer to them, and also know that part of the reason you may be emailing the question is not that you necessarily need the answer prior to your next appointment which will be in 3 days, but it is because you are worried you may forget to ask your question at your next appointment. It's easier just to send the questions and get them off of your plate. But then our plate gets more crowded. Instead, we would ask that you type the question into your phone in a section titled "Questions for my doctor's appointment" or in this Handbook and save it up until your appointment. This makes perfect sense, saving you time and us time at the same time.
    - Please don't email us to tell us that you are "contracting but not too regularly so what can that mean" and stuff like that, things like this require phone calls. We can't evaluate "I feel like I am leaking something, what can that be?" over email. We will want to ask you 10 different questions about either of those things to see where we should direct you.

PRENATAL CHECKLIST

Keep referring to this page as you go through your prenatal care in our office. It will help remind you when to get certain special tests and to schedule classes. Keep in mind that not all tests will coincide with your office visits, and some tests are time sensitive; there is a "window of opportunity".

Remember to CHECK IT OFF ✓ after you've completed each task!

First Trimester

✓ ONCE COMPLETED	TO DO LIST
	1. **Blood draw** for routine prenatal laboratory tests. This should have been done prior to your first "obstetrical" visit, so that we can review them at that first visit.
	2. Call the perinatologist's office if you are interested in having the **Nuchal Translucency (aka NT test) or if you would like to set up a Genetic Counseling appointment to discuss the ever-expanding topic of genetic testing that is available to you. The NT test may only be done between 11–14 weeks, so please schedule far in advance! Additional testing called Carrier Screening, is available as well through Natera. IF YOU WOULD LIKE THESE TO BE DONE, YOU MUST LET US KNOW!** Please read our section on Genetic Tests for details. Insurance may or may not cover this extra testing.
	3. NIPT (pronounced like an acronym, not like "I nipped it in the bud"). We would have offered this to you at your first or second early ultrasound appointment, but if you didn't do it then, but want it now, let us know. Also, you would have been offered Carrier screening at the same time. Regarding Carrier screening, if you have ever had comprehensive carrier screening, you don't need to do it again, as your status as a carrier for a particular disease never changes.
	4. Call the perinatologists at **Diablo Valley Perinatal Associates (925-891-9033)** to set up an appointment for a **Level II 20-week ultrasound** (Believe it or not, they are extremely busy, and it is best to call way in advance). Make sure that Diablo Valley Perinatal Associates accepts your insurance and ask them whether the ultrasound needs to be pre-authorized. Everyone receives a 20-week ultrasound.
1ST TRIMESTER NOTES	

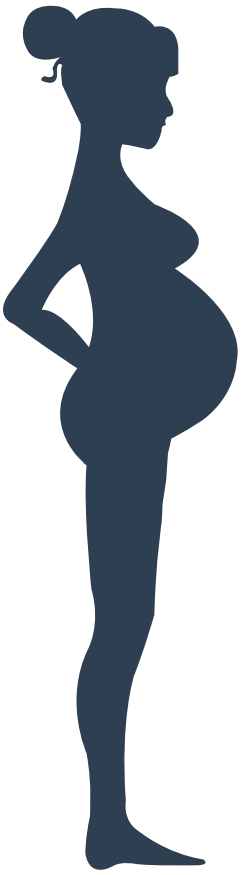
PRENATAL CHECKLIST

Remember to CHECK IT OFF ✓ after you've completed each task!

Second Trimester

✓ ONCE COMPLETED	TO DO LIST
	5. Second part of the State screening is to be done between 15–20 weeks, (ideally between 17–18 weeks). This test checks for neural tube defects (think Spina Bifida) Most patients pass on this because the level II ultrasound is actually more accurate.
	6. **Obstetrical Level II Anatomic Ultrasound** at 20–21 wks.
	7. Complete the hospital **Registration forms** at 15 weeks by going **on-line** at www.johnmuirhealth.com/services/pregnancy
	8. Call between the Level II Anatomic ultrasound and 26 weeks to sign up for **classes at John Muir**. Please see their website for details and scheduling at www.johnmuirhealth.com/services/pregnancy. I usually recommend the childbirth education (Lamaze) classes, infant CPR, and the Breastfeeding & Care of the Newborn class. They are supported by John Muir Medical Center Birth Center, and they are AWESOME!
2ND TRIMESTER NOTES	

Remember to CHECK IT OFF ✓ after you've completed each task!



Third Trimester

✓ ONCE COMPLETED	TO DO LIST
	9. **Blood draw at 28 weeks** (give or take one week). • One-hour post-glucola (screening test for diabetes) and a repeat Heme 4 (to check for anemia) • Antibody screen for moms who have Rh-negative blood
	10. **Rhogam injection at 28 weeks** ONLY for moms who have Rh-negative blood. This should be given roughly 7 days after your antibody screen was drawn. **If you haven't heard from us or received your Rhogam injection one week after your blood was drawn for the anti-body screen, please reach out to us immediately.**
	11. **Tdap Vaccine** should be received sometime from 27–32 weeks, if not given previously in this pregnancy. For more information on this see the Common Questions section!
	12. **Vaginal culture** to identify carriers of Group B streptococcus (GBS). This culture will be done at 36 weeks. Be sure to ask for results at the very next appointment. Be sure to read the section on GBS.
	13. **Call and interview a pediatrician** if you do not already have one. It is important that you have one picked out by the time you enter the hospital.

3RD TRIMESTER NOTES

PRENATAL
CHECKLIST

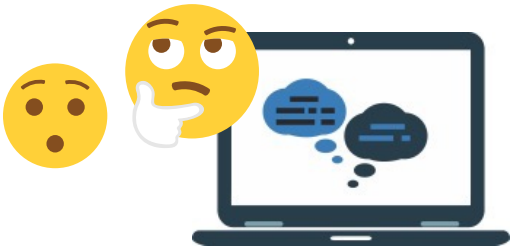
Remember to CHECK IT OFF ✓ after you've completed each task!

Postpartum

✓ ONCE COMPLETED	TO DO LIST
	14. **Schedule an appointment for 6 weeks following your delivery**. At this visit, we'll perform a pelvic exam and discuss contraception.
	15. **If you had gestational diabetes**, you would need a follow-up two-hour post-glucola test.
	16. **If you had an abnormal PAP smear during your pregnancy**, you would need a follow-up at this visit or soon after.
	17**. If you have thyroid disease**, we will need to test your blood again.

POSTPARTUM NOTES

COMMON QUESTIONS



CAN I TRUST WHAT I READ ON THE INTERNET?

The Internet for better or worse is here to stay. It's an incredible source of information, both good and bad. In the world of obstetrics, I liken going out on the Internet to watching a horror movie. Speaking to all movie-goers here, we've all watched on the screen, in sheer disbelief, a seemingly intelligent group of individuals entering and staying in an old rickety house with no electricity on a very rainy night.

Two friends have already been ruthlessly "eliminated" and there is always a woman, walking down a long dark hallway with an old flashlight that barely works. Unbelievably, as we watch, she hears some faint whisper, AND SHE WALKS TOWARD THE WHISPER! "Who's there?"

Really!? What does she think is going to happen? NOTHING GOOD, I PROMISE! Our point: The Internet contains a lot of scary stuff.

Mostly, you will find information on conditions or circumstances that are not your own. They may apply to some people, but not necessarily to you. You have to be very careful not to apply things you read to your situation, even if the information comes from a "reputable site". We cannot tell you how much stress has been unnecessarily caused by random Internet searches by women with relatively benign or common obstetrical conditions.

Ultimately, we know that most people will still search for information, but we would caution you to enter your search at your own risk. As an alternative, you can call us and we will give you the appropriate information and hopefully put your mind at ease. We find that the Internet is a great place to buy stuff or find a good restaurant, but not so great at finding specific answers to your specific medical situation.

COMMON QUESTIONS

HOW MUCH WEIGHT SHOULD I GAIN?

How much weight you should gain during pregnancy depends on how much you weighed before you became pregnant. The average recommended weight gain is 25 to 35 pounds. However, underweight women should gain a bit more, and obese women should gain less.

Also, keep in mind that during pregnancy we need only an additional 300 calories per day compared to a non-pregnant caloric intake. That adds up pretty fast, so keep an eye on your diet. A non-pregnant woman needs between 1800 and 2200 calories a day. Women who do not gain enough weight put their babies at risk of being small (less than 5½ pounds).

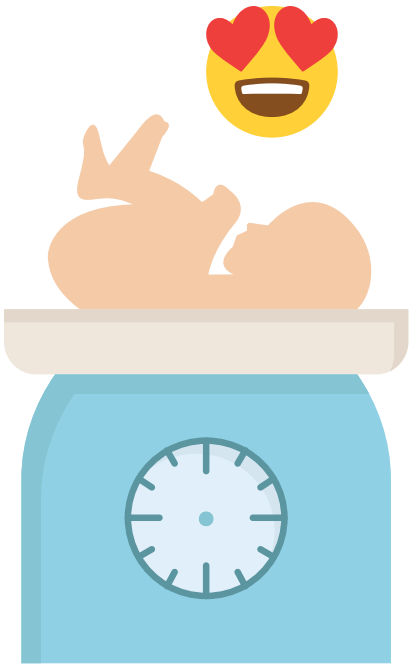
This can produce associated health problems for the baby. Women who gain too much weight have a profoundly increased risk of developing high blood pressure, and diabetes, and delivering a very large baby. In general, think of gaining 5-10 pounds by 20 weeks and about a pound a week thereafter. Also keep in mind that weight gain in pregnancy over time will not look like a linear graph, but will more or less be like "dang I gained too much weight" alternating with "dang I hardly gained anything."

CONDITION BEFORE PREGNANCY	WEIGHT GAIN ADVISED IN POUNDS
Underweight	28 to 40
Normal weight	25 to 35
Overweight	15 to 25
Obese	15
Carrying twins	35 to 45

COMMON QUESTIONS

HOW MUCH WEIGHT IS MY BABY GAINING DURING PREGNANCY?

Your baby grows at different rates, depending on how far along you are in your pregnancy. We call these differing growth rates “cell growth phases.” Roughly speaking, your baby gains 5 grams per day at 15 weeks, 15-20 grams per day; slightly more than 1/4 pound per week at 24 - 33 weeks, and 30-35 grams per day; 1/2 pound per week at and after 34 weeks. These rates are not absolutes for every baby, though.



COMMON QUESTIONS

CAN I LIE ON MY BACK DURING PREGNANCY?

Yes, you can! Unfortunately, what used to be "lying on your left side is best" has now become "therefore when you lie on your back, it's bad." However, this latter statement, which was perpetuated by those with no medical background and medical personnel alike, has misled countless pregnant women. We recommend lying on the left side in only very rare circumstances.

Along the right side of your spine runs the largest vein in the body, called the vena cava. Since the uterus in pregnancy is rotated slightly to the right side of your body (because the lower part of your colon runs along the left side of your pelvis thereby pushing the uterus forward and to the right), it can compress the vena cava. This compression of the vena cava may inhibit the blood flow returning to your heart.

If there is less blood flow returning to your heart, then there is less blood pumping out of your heart back down to the uterus and other organs. When lying on your left side the uterus is shifted off the vena cava, thus increasing blood flow returning to the heart.

That being said, **how important is this reduction of blood flow returning to the heart to the health of the baby? The answer is "it depends."** In rare circumstances, the change in blood flow can have a substantial impact on the pregnancy. In women with hypertension, bedrest with lying on the left side decreases blood pressure and can prolong pregnancy to term. In women with pregnancies complicated by intrauterine fetal growth restriction, lying on the left side may help bring more nutrients and oxygen to the deficient fetus.

Additionally, women with twins, because of an extremely large uterus, are recommended to stay on the left side as much as possible. Other than these circumstances, women can safely lie on their backs as long as it is comfortable for them. If there is reduced blood flow to the heart and therefore from the heart, keep in mind that there is also decreased blood flow and oxygenation to the brain. Your brain is VERY sensitive to this change and will prompt you to change your position (nausea and light-headedness are often "prompts" from the brain).

If you are asleep, know that your brain is very much awake and will protect you and the baby by rolling you over onto your side or into a position that will increase blood flow and oxygenation.

So don't worry about the lying-on-your-back thing. **If you have a normal healthy pregnancy, lying on your back will not jeopardize your baby**.

COMMON QUESTIONS

WHAT IS MY BABY'S NORMAL HEART RATE RANGE?

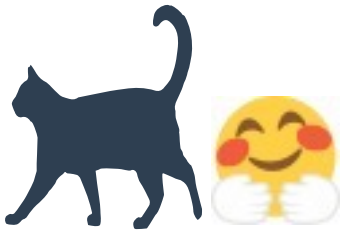
The normal range for an unborn baby's heart rate is very wide. **A heart rate of 120 to 160 beats per minute is considered normal**. One rate does not indicate "good health" more than another, and unlike what you may have heard, you can't tell the sex of the baby by his or her heart rate. Additionally, the rate will likely be different each time you come in. We check the heart with a device that uses sound waves to identify and calculate the rate. This "Doppler" device will tell us the average heart rate at the time we listen.

Don't be concerned if one visit you come in and the rate is 155 and the next time we check it is 123. It does not mean that anything significant is going on. Typically, the heart rate is slower when the baby is resting and is elevated if the baby is exercising in the womb.

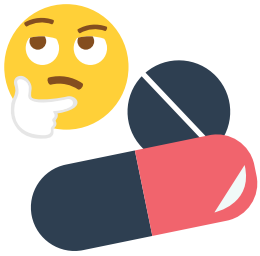
WHAT SHOULD WE DO ABOUT OUR CATS?

Cats that are "hunters" may carry a parasite called **Toxoplasma gondii**. **Strictly indoor cats are less likely to carry this disease-causing organism**. The best advice is to let someone else clean the cat litter, where the highest concentration of Toxoplasmosis is likely to reside.

If you must do it yourself, wear gloves and wash your hands immediately after changing the litter. Also, wash your hands after handling your cat. **Toxoplasmosis is very rare and most Ob/GYNs have never actually seen a case of a woman's pregnancy being complicated by the disease**. Chances are likely that most never will. That's how rare it is.



COMMON QUESTIONS



WHAT IRON SUPPLEMENT IS BEST TO TAKE IF I'M ANEMIC?

If you were told either at the beginning of your pregnancy or at 28 weeks that you are anemic, don't worry. **Anemia in pregnancy is common**, and the cause is more likely physiologic, and not pathologic.

When we draw your blood into a tube, it is centrifuged in a lab and the hemoglobin and hematocrit are determined. These are the markers we use to assess whether or not you are anemic.

A Hematocrit test measures the percentage of red blood cells in whole blood. Blood is made up of two components, blood cells and a straw-colored fluid called serum. When blood is centrifuged, the two components separate. If the blood cell portion represents half of the total volume of blood, the hematocrit would be 50%. If the blood cell portion represents 1/3 of the total volume, the hematocrit would be 33%.

The normal hematocrit range for non-pregnant women is 37-47%. Pregnant women progressively produce more serum than when not pregnant, making the percentage of blood cells to total volume of blood falsely lowered.

We recommend that you take iron supplements if your hemoglobin or hematocrit falls below a certain threshold. The brand we recommend most is the over-the-counter supplement called **Slow-Fe** or **Bifera**. This is usually well tolerated and rarely causes stomach upset or constipation**. If you are intolerant to these over-the-counter supplements, try Niperex 150.** If this doesn't work for you, we can send in a prescription-strength supplement for you.

COMMON QUESTIONS

I HAVE HERPES. HOW CAN I PREVENT OUTBREAKS AND AVOID A CESAREAN SECTION?

Herpes represents one of the most common viral STDs in the U.S. Although some studies indicate that 5% of reproductive-aged women reported having a history of herpes infection, fully, 30% of women in the U.S. demonstrate antibodies against the virus**.**

In regard to risk, having a first outbreak during pregnancy represents the largest risk to the fetus, with a 30% chance of transmission from mother to baby. Recurrent episodes don't seem to confer nearly the same risk, largely because of protective antibodies. The risk of transmission with recurrent episodes appears to be less than 3%.

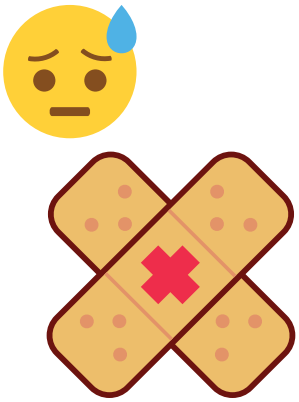
We recommend initiating antiviral therapy beginning at 36 weeks gestation. The medication used for suppressive therapy is safe and causes no harm to the fetus.

The reason we recommend antiviral medications is to prevent obvious outbreaks as well as asymptomatic shedding; it is possible to shed the virus into the vagina without ever feeling like you have an outbreak at the time of delivery.

If you have an **obvious outbreak or symptoms like you are developing an active outbreak during labor, we will recommend a cesarean section,** thus bypassing the area where most women develop outbreaks.

For women who have non-genital outbreaks, a cesarean section is not necessary. Instead, we will cover non-genital lesions with an occlusive dressing to prevent the spread onto bed sheets, etc. Once the non-genital lesions are covered, vaginal delivery can take place.

We recommend taking **Valtrex 500mg once daily beginning at 36 weeks—**earlier if you have a history of preterm labor or delivery if you have infrequent outbreaks. **If you have had several outbreaks during pregnancy, we recommend 1,000mg once daily. Numerous studies have documented the safety of these medications**, which in addition to suppressing outbreaks in the mother, are also known to pass through the placenta and concentrate in the amniotic fluid, after reaching therapeutic levels in the fetus.



COMMON QUESTIONS

LOW-LYING PLACENTA OR PLACENTA PREVIA, SHOULD I BE CONCERNED?

Sometimes our patients are diagnosed with a low-lying placenta or placenta previa by ultrasound after they have a bout of bleeding sometime during the second trimester. Others find out about it during their routine 20-week ultrasound. If you've been given that diagnosis, it's not the time to panic, but it's also not the time to plan a vacation to an obscure location.

Placenta previa occurs when the placenta implants, grows lower in the uterus and covers some or all of the cervix, the opening of the womb. A low-lying placenta implants in the lower uterine segment but does not cover the cervix. If you are diagnosed with a low-lying placenta by ultrasound, fear not. Over time, the placenta will move further up and away from the cervix and it shouldn't alter the course of your pregnancy. Although you may have periodic bleeding, you should be able to deliver vaginally without any significant bleeding issues.

However, if your placenta persists in covering your cervix, you will need to deliver by cesarean section early at about 36-37 weeks to prevent SIGNIFICANT bleeding that may occur. When labor occurs, the placenta would begin to shear off its attachment to the cervix and lower part of the uterus, precipitating bleeding - sometimes a little but eventually increasing to a lot. We intervene early to prevent these disasters.

What happens after you receive the news? When you're diagnosed with either condition, you'll be given instructions like, **don't have intercourse** thus, "poking the bear". Other forms of sexual activity should be fine, really. Just nothing in the vagina.

Elicited orgasms by other means will be fine. **Other things to avoid: don't run, jog, jump rope, join a kickboxing class, or buy a trampoline.** The more jolting you put your body through, the more likely you are to bleed.

Likely, you will be instructed to return for more follow-up ultrasounds; **many women who are diagnosed at 20 weeks find that the placenta has moved up and well away from the cervix completely by 30 - 34 weeks.** When that happens, you can resume all desired activities.

If you've been diagnosed and you find yourself bleeding, call our office day or night based on the following: you have dark brown or light pink blood and no contractions after office hours, rest and wait to see if it resolves, and call us in the morning. If the bleeding increases and becomes like a period with red blood with or without contractions, don't panic but call our office (even after hours). If you have heavy, active bright red bleeding, head to the hospital while you are calling our office. If you feel unstable, dizzy, etc., in the face of heavy bleeding, call 911. To keep everything in perspective, in Dr. Wells' 25+ year career, only once have we had this last scenario happen to a patient, and she did fine.

COMMON QUESTIONS

I WAS TOLD I HAVE FIBROIDS, ARE THEY DANGEROUS?

If you have been diagnosed with benign uterine tumors called fibroids, **how these will impact your journey depends on location and size**. First and foremost, **they are very common, occurring in up to 10% of pregnant women** being common, they are.

Despite being common, they rarely cause significant problems during pregnancy. Fibroids are like little rubbery balls embedded in the muscular wall of the uterus. For more information regarding fibroids in a non-pregnant state, please see our website www.stephenwellsmd.com.

They can be single or multiple, large (>10cm) or small, marble-sized. 25% of fibroids grow during pregnancy, and the remainder either stay the same size or shrink.

They are typically asymptomatic, although some women may have pain from either the bulk of them or because some grow so rapidly they outgrow their blood supply and degenerate, a process that can be painful.

If located within the endometrial cavity, in the same space that your baby occupies, some fibroids will lead to miscarriage, although this is very, very uncommon. Large fibroids may cause your baby to assume a non-vertex (breech/non-head down) presentation late in pregnancy. If they are located in the lower uterine segment of the uterus and are of sufficiently large size, they could prohibit having a vaginal delivery.

During labor, fibroids may also cause a dysfunctional contraction pattern that ultimately leads to cesarean delivery. Besides that, we don't make much fuss about their presence. There's not much you can do about their presence once pregnancy has been established. If they do complicate your pregnancy, let's take care of them after the completion of your pregnancy.

If you are diagnosed with fibroids, we will simply assume you will do well and won't alter anything as far as your care during your pregnancy is concerned. If they are large or excessive in number, we may send you for more ultrasounds to assess their growth and to make sure your baby is growing appropriately. Otherwise, we will address developing symptoms as they come up.

COMMON QUESTIONS

THE INTERNET SAYS CHECKING MY CERVIX DURING PRENATAL VISITS ISN'T NECESSARY

Aw yes, the Internet. So helpful with this one. Here it is, explained. For literally decades, a common part of prenatal care closer to the time of delivery is an examination of the cervix. Not the most comfortable exam (although we try our hardest so that it is not traumatic), so why do we recommend something so invasive and barbaric?

Simple answer, for information. We can tell the position of the baby easily, how the head is descending into your pelvis or not descending, and whether or not it is likely you will deliver vaginally. Is this information important? It's ultimately up to you. Maybe you would want to have that information before the arduous process of labor starts. We can often tell by the feel of your bony pelvis and the location of the baby's head within your pelvis if you are LIKELY to deliver according to a normal labor curve (timeline) or a protracted labor curve and if a vaginal delivery is even possible.

Did you know there are 4 distinct shapes of the female pelvis? They are called Gynecoid, Platypelloid, Anthropoid, and Android. Each pelvic type may predispose to different lengths of labor, and different likelihood of achieving a vaginal delivery. Although the vast majority of women are able to delivery vaginally, within a certain subset, vaginal delivery is just not possible.

If your cervix is dilated, we can assess more sinister things like whether or not there is a loop of the umbilical cord in front of the baby's head (called "funic presentation", this is not good), and fun things like how low and engaged the head is and how bulgy the fetal membranes are within the dilated cervix, determining the likelihood of delivering in a few days versus a few weeks. Lastly, we can assess if there is advanced cervical dilation in the absence of labor as in, "no honey, you can't go home. You go straight to the hospital, so you don't deliver in our office, the freeway, or in your driveway at home".

We check so we can plan for how we are going to induce your labor if it is medically indicated or electively desired. Might you need cervical ripening the night before your induction date or can you just go to L&D in the morning on the day of your induction?

If you find in your google research that antenatal cervical exams may cause infections, sorry, we just don't buy that. But as always, we will respect your wishes. If you don't want us to check your cervix weekly beginning at 36 weeks, please let us know. You are encouraged to educated yourself and do your own research, if you feel strongly about your Internet research's reliability, we will work with you in whatever way you wish.

COMMON QUESTIONS

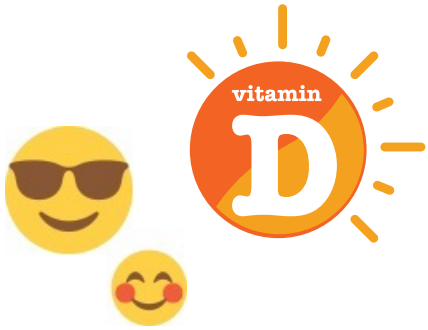
I WAS TOLD TO TAKE BABY ASPIRIN, WHY?

Low-dose aspirin (81mg dose as in St Joseph's chewable peach flavored baby aspirin, or ANY OTHER brand) has been used during pregnancy, most commonly to prevent or delay the onset of preeclampsia. The American College of Obstetricians & Gynecologists issued the Hypertension in Pregnancy Task Force Report recommending daily low-dose aspirin beginning in the late first trimester for women with a history of preeclampsia and preterm delivery (as a result of their preeclampsia). The U.S. Preventative Services Task Force published similar guidelines but expanded the list of women who should consider taking baby aspirin during pregnancy.

ACOG and the Society for Maternal-Fetal Medicine came back and said, "yep, that makes since, since the risk of taking baby aspirin is negligible (allergy to the medication excluded, of course) and the potential for benefit is potentially significant given how risk factors for the development of preeclampsia is increasing in the American Society (think moms over 35, obesity with BMI's greater than 30, IVF pregnancy, twins, hypertension and diabetes and renal disease).

If you fall into one of these categories above, start taking baby aspirin between 12 and 16 weeks (some say by 28 weeks for sure) and continue through delivery. It won't impact your ability to have an epidural during labor, and won't cause postpartum heavy bleeding. If you are stone-cold healthy, you can pass on the aspirin. If you are unsure, just take it or ask us. We will probably say "why not, just take it."

COMMON QUESTIONS



VITAMIN D

From the Horse's mouth: The American College of Obstetricians & Gynecologists provided a "Committee Opinion" in July 2011 (but that's so long ago) which they reaffirmed in 2017, where they stated "At this time there is insufficient evidence to support a recommendation for screening all pregnant women for vitamin D deficiency.

For pregnant women thought to be at increased risk of vitamin D deficiency, maternal serum 25-OH-D levels can be considered and should be interpreted in the context of the individual clinical circumstance. When vitamin D deficiency is identified during pregnancy, most experts agree that 1,000–2,000 international units per day of vitamin D is safe. Higher dose regimens used for the treatment of vitamin D deficiency have not been studied during pregnancy.

Recommendations concerning routine vitamin D supplementation during pregnancy beyond that contained in a prenatal vitamin should await the completion of ongoing randomized clinical trials. At this time, there is insufficient evidence to recommend vitamin D supplementation for the prevention of preterm birth or preeclampsia.

Wisely, ACOG didn't address the reasons why pregnant women should take Vitamin D. Medical societies sometimes loathe to recommend things outside of the scope of real medical science, especially when some (fringe) societies may boast the benefits that are less than clear-cut. For years Vitamin C was thought to cure every ill, notably the common cold, and everyone loaded onto the bandwagon singing its benefits which have long since been disproven.

We are not saying Vitamin C is bad or unnecessary, we just bring it up because, as it turns out, it doesn't do the things the band groupies were convinced it would. And now we have Vitamin D. We would recommend waiting for the prospective studies to be completed before changing our recommendation. Since those studies are not likely to be completed prior to your delivery, we leave the option to you.

Supplement over and above what your prenatal vitamin provides if you would like. In keeping with our Society's recommendation, we don't screen Vitamin D levels during pregnancy, as most people in our part of the hemisphere tend to run a bit low, but not as low as women in Seattle or in Anchorage.

COMMON QUESTIONS

WHAT ARE COMMON ACHES AND PAINS DURING PREGNANCY

Unfortunately, pregnancy has never been known to be a comfortable experience. Although a natural process, the fact that you are growing something inside of you that is likely to weigh anywhere from 5 ½ to 10 ½ pounds, it is no surprise you will feel significant stretching of muscles, tendons, ligaments, joints, skin, and nerves.

Some women soar through pregnancy, enjoying every aspect of the miracle growing within them with huge smiles on their faces. Life couldn't feel any better than while pregnant. If you are one of these women, don't fool yourself, your pregnant friends both love you and hate you. Regardless, enjoy the miraculous process for the beautiful thing that it is. On the other hand, if you encounter stretches (pun intended) of time feeling miserable, you are not alone.

Here are some of the many potential ailments you may encounter on this beloved journey that your pregnancy-loving friend may never have had to endure and some solutions that carry with them variable results. Definitely have your partner read this section with you:

ROUND LIGAMENT PAIN, which occurs typically in the first and second trimester and causes intense pain in either right or left lower abdominal quadrant typically when rising from a sitting to a standing position, rolling over in bed, picking things up, or walking upstairs. Like a thick rubber band that is being stretched and shredded apart. This is not harmful but may stop you in your tracks. When you realize trigger movements, avoid them or just move more slowly.

BACK PAIN, which is all too common. Low back pain to lower sacral pain. Sometimes that pain is localized even lower in the Sacral-Iliac joints (SI-joint).

Back pain in general can be miserable, and unfortunately ignoring the symptoms may cause the condition to worsen. Get into prenatal yoga classes as fast as you can. Prenatal massage can be helpful as well, and no, I've never seen women go into preterm labor as a result.

We also recommend physical therapy by a physical therapist or chiropractor for persistent severe pain. If your pain is localized to the SI joint, there is a SI lock belt by Serola that can be purchased (thank you Amazon Prime, and your delivery in the next 2 days!) and may be helpful. Also, consider a long back rub or massage with essential oils by your partner every night to make this pain more bearable.

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COMMON QUESTIONS

COMMON ACHES AND PAINS CONTINUED...

PUBIC SYMPHYSIS PAIN is common usually later in pregnancy. You will note deep tenderness and pain on direct palpation of the bony area right above the vagina. Relaxin, a hormone that relaxes the glue holding the pelvic bones close together loosens in preparation for delivery, and the separation of the pubic rami cause significant pain for some women. A heating pad and avoidance of activities that aggravate the pain are the best we can offer on this one. Sometimes, pelvic girdle belts can provide a bit of relief for some women.

SCIATICA is an intense electrical-like pain deep in your butt cheek that radiates down to your feet, increasing with too much sitting, too much walking, or too much laying in bed. Usually comes on later in the second trimester, but sometimes earlier. For this, we may recommend seeing a physical therapist or chiropractor for deep tissue manipulation and stretching exercises. Sometimes, deep tissue massage with essential oils every night may help to make this pain more bearable.

HIP PAIN during the day, but especially at night. During the day, hip pain is generally responsible for the waddling you may find yourself doing more and more. At night, it is a contributor to insomnia. Flopping back and forth doesn't help too much, but sometimes those large body pillows can help, keeping your knees slightly separated while you are laying on your side.

LIGHTENING CROTCH like someone has shoved a cattle prod up to the top of the vagina and is shocking the cervix. No one really knows the mechanism of how this particular pain is produced, but likely it has to do with the baby's head or presenting part rotating around against the cervix and the lower uterine segment. Sorry, nothing to do about this one, and partners can't help here.

CARPAL TUNNEL SYNDROME. Sometimes arms go numb while sleeping this is quite normal and does not represent you've had a stroke. Hand and finger numbness especially of the thumb, index, middle, and half of your ring finger from carpal tunnel syndrome is also common. It is usually worse in the morning, hindering your ability to do anything requiring grip strength, then resolves somewhat over the course of the day. Wrist braces for carpal tunnel syndrome can be purchased in pharmacies and can be helpful if worn at night, and they are sometimes needed all day long.

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COMMON QUESTIONS

COMMON ACHES AND PAINS CONTINUED...

SWOLLEN, STIFF HANDS, AND ACHY FINGERS. This occurs typically later in pregnancy and is usually more problematic in the morning, making it challenging to do simple hand grip tasks like clutching a cup of coffee but lessening by the end of the day. It always amazes me how pregnant women have swelling in their feet at the end of the day that resolves somewhat by the morning, and hand swelling in the morning that goes away by the afternoon. Gravity-influenced fluid shifts are just crazy. Not much to do about this but decreasing salt in your diet can help. A long hand massage helps here as well. Get to it partners! The massage may not help, but she will feel loved!

CALF MUSCLE CRAMPS, come on usually at 2-3 am in the morning, waking you up out of a dead sleep, clutching your leg, and screaming for your partner to do something. Don't point your toes or you will cramp some more. Instead, get up and stretch your calves as much as you can. Sometimes stretching your calves before you go to bed can be helpful. A long calf rub or massage with essential oils by your partner every night may help to prevent cramps or at least make the pain more bearable.

Although you are welcome to try them, Potassium, Calcium, or Magnesium supplements won't necessarily stop these cramps. If your sheets are tucked in tight at the base of your bed, try untucking them to give more movement to your feet.

GROIN CRAMPS or sensations of groin muscle pulls are also frustratingly common. Stretch these muscles with caution. Gentle stretching helps, aggressive stretching makes matters worse!

PAIN AT BOTH BOTTOM EDGES OF YOUR RIB CAGE occurring at about 30-34 weeks is not too uncommon either. It is likely caused by mild inflammation of tendons that attach your four abdominal muscle groups to the lower margin of your rib cage- basically tendonitis. Sitting up straight relieves discomfort, and slouching makes it worse. Heating pads can help occasionally.

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COMMON QUESTIONS

COMMON ACHES AND PAINS CONTINUED...

BELLY BUTTON TENDERNESS is pretty common in the third trimester. If you have a slightly tender mass protruding through your umbilicus (belly button), or you suddenly develop an "outie", it may represent either a physiologic experience (painless or very slightly tender when touched) or a developing hernia (tender even when not touched).

Usually, this mass contains a little clump of fat and is not a problem. Rarely (Dr. Wells has seen it happen two times in over 25 years of practice) women can develop incarcerated hernias, where the bowel gets stuck after protruding through a small defect, hernia, in the connective tissue sheath called fascia. This condition represents a surgical emergency. Don't worry about trying to figure out if this has happened to you. If it does, you would likely be in so much pain you would be willing to rent a helicopter to fly yourself to the hospital.

BELLY BUTTON SKIN NUMBNESS is common. We have no idea why it happens. The Internet says it's because the skin around the area is being stretched. It is partly true but if you follow that logic one could say their whole body should be numb.

VULVAR VARICOSITIES. These swollen veins outside of the vaginal area can be incredibly uncomfortable and occur rarely in a first pregnancy, and more commonly in each subsequent pregnancy. Not much to do about them but consider a support belt such as the "V2 supporter" – a modified "jock-strap" for women. Although you may be horrified that you can have varicose veins in this area, consider it a badge of honor. Really no other way to look at it.

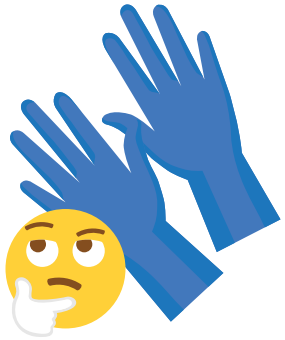
COMMON QUESTIONS

MY CERVIX WAS CHECKED AND NOW I'M BLEEDING, IS THIS DANGEROUS?

Not usually. When we examine your cervix beginning at 36 weeks (in some circumstances before), bleeding may result. Bleeding typically lasts only a day and a half and consists mostly of spotting; so please don't be too alarmed.

At term, the cervix is so vascular that it is not surprising that some bleeding occurs as our fingers gently stretch the cervix during our evaluation of cervical dilation. If the bleeding is heavy like a period or persists longer than expected, please notify us immediately so we can further evaluate the source of the bleeding.

COMMON QUESTIONS



HOW OFTEN DO YOU USE THE VACUUM OR FORCEPS?

When Dr. Wells was in residency training at Los Angeles County USC Medical Center, he used forceps with great frequency. At that time the hospital was the busiest in the nation, delivering nearly 18,000 infants per year.

At any given time, there would be thirty women laboring at once, and about 8–9 residents and interns to care for them with only six O.R. rooms to deliver. If they weren't able to make it to one of the available rooms to deliver, then they would deliver in the labor room, with three other laboring women watching; much different from John Muir's private labor and delivery rooms. As a result, we didn't have much time to allow the women to push, because there were other women waiting for the rooms to clear out.

They would wheel the women in, transfer them to the delivery table, put forceps on, deliver the baby, repair any lacerations or episiotomies, transfer them back onto the gurney, and wheel them out. It wasn't always like that, but some days it would be. After all, they'd deliver up to 80 infants in a 24-hour period. WHEW! He is glad those days are over!

Dr. Thompson has had a similar experience but in his private practice prefers forceps over the vacuum. The difference is in the preference of the user. Both are safe when used wisely. With enough time, most women are able to deliver their babies with their own effort. There are occasions, however, when assistance is needed to deliver the baby. For these occasions, **Dr. Wells uses the vacuum and Dr. Thompson may use forceps or the vacuum. Historically, they've consistently used the vacuum/forceps to accomplish approximately 6% of their deliveries.**

Their approach is very conservative, and they'll only use the vacuum if they're confident that they can safely accomplish the delivery. Over the years, they have had to perform very few cesarean sections for an unsuccessful attempt at vacuum delivery. The main reason for that is understanding which babies will fit safely, and which ones will not.

The vacuum or forceps instruments are very helpful in situations where the mom needs assistance. The usual indication for operative delivery is when a mom has pushed for hours and has approached exhaustion. Sometimes all that is needed is a little extra "oomph" to bring the baby completely around the pubic bone in the birth canal, which then leads to delivery.

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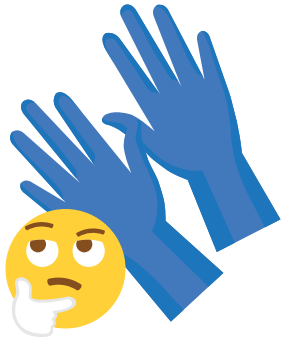
COMMON QUESTIONS



THE FREQUENCY OF VACUUM AND FORCEPS CONTINUED...

Another use for them is to expedite delivery in situations where the baby is not tolerating labor well during the second stage—the pushing stage—or will not tolerate a prolonged second stage. When we use the vacuum or forceps, the baby has to be low enough in the pelvis to where we are confident delivery can be accomplished.

With the vacuum, we feel comfortable pulling through the duration of three contractions, but rarely more. If our sense is that the attempt won't be successful during the course of the first several pulls, we won't hesitate to abandon the attempt. If the pulls aren't successful or if we abandon the attempt, we'll recommend a cesarean delivery. Our goal is a "healthy mom, healthy baby." We are not interested in lowering our cesarean section rates. They are already low enough.

Knowing everything about vacuum and forceps deliveries, Dr. Wells has felt comfortable with the risks involved with operative vaginal deliveries that when his wife's obstetrician recommended an attempt at vacuum-assisted vaginal delivery, he was all for it.

Without operative assistance, his wife would've had another cesarean section, and she was really trying to achieve a safe vaginal delivery for her second birth. Complications that he knew about and knew to be rare include minor scalp abrasions, occasionally small scalp lacerations, and hematomas (blood collections).

The types of blood collections include the more common and less traumatic cephalohematoma, occurring in up to 9.5% of vacuum deliveries and 3.7% of forceps deliveries, and 2% of spontaneous deliveries, and the rare but more traumatic subgaleal hematoma, occurring in up to 2.5% of vacuum deliveries.

Most literature suggests a rate of .04% of spontaneous deliveries and .59% of vacuum-assisted deliveries. The rarest complication is in-cranial hemorrhage, with a rate of 0.037% of spontaneous, 0.162% of vacuum, and 0.17% of forceps deliveries. Again, it is important to note that all of these complications can also occur (although less frequently) in spontaneous, un-assisted deliveries and in cesarean sections. When these complications occur, the infants are watched very carefully for resolution.

Again, **we do not use the vacuum or forceps frequently, and we'll only recommend its use if we think your infant is in potential jeopardy or if we think that you will be unable to deliver with your own pushing attempts.** We will decide on its use together as a team, and we will respect your final decision on its use.

COMMON QUESTIONS

SHOULD I GET THE TDAP VACCINE FOR WHOOPING COUGH?

The CDC and the American College of Obstetrics and Gynecology (ACOG) strongly recommend that all pregnant women receive the Tdap vaccine during their pregnancy, whether or not they have been vaccinated.

Pertussis, commonly referred to as whooping cough, is a highly contagious respiratory illness that is caused by the bacterium Bordetella Pertussis. The disease is characterized by uncontrollable, violent coughing, which makes it hard to breathe, and often results in an inspiratory "whooping" sound after a coughing fit. **Pertussis most commonly affects infants and young children and can be fatal, especially in those less than three months of age.**

Tdap given to pregnant women will stimulate the development of maternal antipertussis antibodies, which will pass through the placenta, likely providing the newborn with adequate protection against Pertussis in early life until they are old enough to be vaccinated themselves. **Tdap may be administered at any time during pregnancy, but vaccination during the third trimester from 27 – 36 weeks is considered best** in allowing for the highest concentration of maternal antibodies to be transferred to the baby closer to birth.

If you have questions about the Tdap vaccine, please ask. It is commonly administered in our office, a primary care physician's office, or a local pharmacy. Generally, we carry/administer it for most of our patients. If your insurance will not cover it being administered in our office, we will give you a prescription for this vaccine at roughly your 24-26 week visit.

FLU SEASON IS JUST AROUND THE CORNER, SHOULD I GET VACCINATED?

The American College of Obstetrics and Gynecology (ACOG) and the U.S. Public Health Service have recently expanded their recommendations for influenza vaccination to include all pregnant women during flu season, regardless of their gestational age. Although the CDC states that a vaccine containing thimerosal (a preservative containing a small amount of mercury) is safe for pregnancy, California recently passed a law mandating a preservative-free vaccine when available.

If you're pregnant during flu season, please call your primary care physician to receive the influenza vaccine. It's safe. That's why we recommend it. If the preservative-free vaccine is not available, the CDC and the California State government still recommend receiving the thimerosal-containing vaccine.

COMMON QUESTIONS

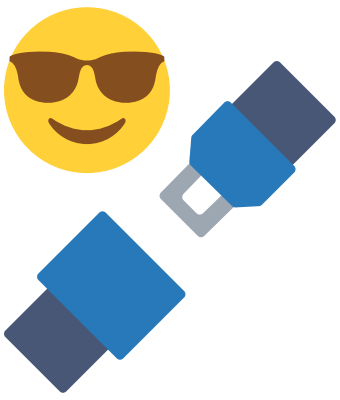
SHOULD I WEAR MY SEATBELT WHILE DRIVING?

The American College of Obstetrics and Gynecology (ACOG) clearly recommends the use of seatbelts during pregnancy. Fetal risk is dramatically reduced in moms who are wearing their seatbelts when involved in automobile accidents. Additionally, there is no evidence that airbag use is detrimental to pregnancy.

We definitely recommend that you wear your seatbelt at all times while driving. The lap belt should be placed under your belly and across your upper thighs. It should be worn snugly, but comfortably. Make sure the shoulder restraint is placed between your breasts and across your shoulder, Never slipped off your shoulder. **If you are involved in an automobile accident, no matter how minor, please call our office as soon as you can. If you are injured and need immediate assistance, call 911 first.**

I'M THE VICTIM OF DOMESTIC VIOLENCE, WHAT SHOULD I DO?

Unfortunately, two million women report being abused in the home every year. Some studies reveal that domestic violence is found in 1% to 20% of pregnancies. The outcomes are never good. Please tell us if you do not feel safe in your home because of physical or mental abuse. Understand that in the future, you may not be the only victim.

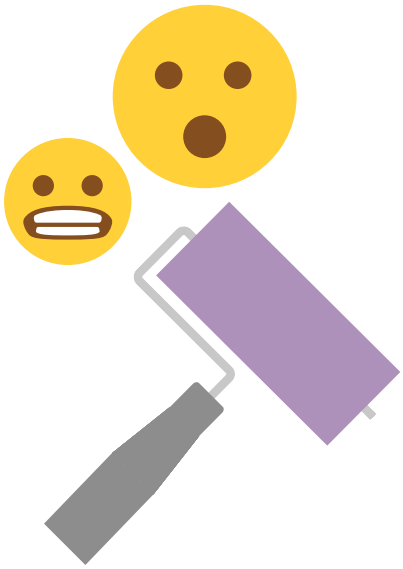


COMMON QUESTIONS

CAN I PAINT THE INSIDE OF OUR HOUSE DURING PREGNANCY?

Indoor paints contain a Latex base, which has not been shown to be harmful. Our best recommendation would be first to let someone else do it unless you love to paint and love to clean up the mess after you're done painting.

If you decide to tackle the project yourself, make sure the room is well-ventilated. Masks are not usually helpful to prevent breathing fumes unless you're wearing an industrial-grade mask. If you find you're getting nauseated or dizzy while painting, there is obviously not enough ventilation, and you should abandon the project and let someone else do it for you. After the painting has been completed, you will still smell fumes for some time. Again, this should not cause harm, but make sure increased ventilation helps to dissipate the fumes in a short period of time.



COMMON QUESTIONS

CAN I COLOR MY HAIR?

Although it is safest to avoid exposure to unnecessary medications or chemicals during the first 12 weeks of pregnancy, no data have shown any birth defects or fetal problems associated with the use of hair dyes or peroxide before 12 weeks.

Additionally, chemicals of all types are very poorly absorbed through the skin, so we would say yes, you can color your hair any time during pregnancy. Be aware, however, that because of the change in hormones during pregnancy, your hair color may not come out as expected.

ARE TANNING LOTIONS SAFE?

Tanning lotions are basically dyes that color the skin. Since the skin is such a great barrier in its function as the primary defense mechanism for our bodies, chemicals almost have to be specifically designed to penetrate skin layers to be absorbed. So yes, tanning lotions or sprays are safe, and are certainly safer than the radiation effects of tanning beds.

ARE TEETH-WHITENING PRODUCTS SAFE?

Unfortunately, we don't have any evidence that these products are safe or not safe. My guess would be that they're harmless, but since there are no medical studies to say, either way, I'd advise not using these products until after you are done with the pregnancy and breastfeeding. Most dentists agree with us on this one.

COMMON QUESTIONS

CAN I STILL USE ARTIFICIAL SWEETENERS?

Yes, you can use Aspartame (found in NutraSweet and Equal brand sweeteners). Additionally, the FDA has also stated that Sucralose (found in Splenda), Saccharin (Sweet'N Low), Acesulfame potassium, neotame, and Advantame are completely safe in pregnancy. Sugar-free gum is also fine to chew during pregnancy.

DO I NEED TO STOP ALL CAFFEINE INTAKE?

When caffeine is used in moderation, there has been no association with birth defects, miscarriages, preterm delivery, or low birth weight. However, with the consumption of high doses, there has been an association between miscarriages and infertility.

The bottom line is that caffeine intake during pregnancy is fine in moderation, so we recommend limiting your intake of caffeinated beverages to three or fewer per day.

Remember that caffeine is found not only in coffee but also to a lesser degree in teas and sodas. If you are a coffee addict, you might try putting half decaf and half regular in your cup. Decaffeinated drinks are better for your health anyway, now is a good time to lower your caffeine intake.

CAN I STILL DRINK ALCOHOL WHEN I'M PREGNANT?

Because it is currently unclear how much alcohol in pregnancy is harmful, the **best advice is to not drink at all**. Having a half glass of wine on a special occasion is most likely harmless. However, women who abuse alcohol during pregnancy increase their odds of having a miscarriage, a premature baby, or delivering a baby with fetal alcohol syndrome.

This syndrome can lead to growth problems, heart defects, facial defects, and behavioral problems. The women with the highest risk of delivering a baby with Fetal Alcohol Syndrome are those who drink two alcoholic beverages a day for the entire pregnancy and those who binge drink.

COMMON QUESTIONS

CAN I USE RECREATIONAL DRUGS DURING PREGNANCY?

Research shows that the use of tobacco, alcohol, or illicit drugs or misuse of prescription drugs by pregnant women can have severe health consequences for infants. This is because many substances pass easily through the placenta, so substances that a pregnant woman takes also reach the fetus.

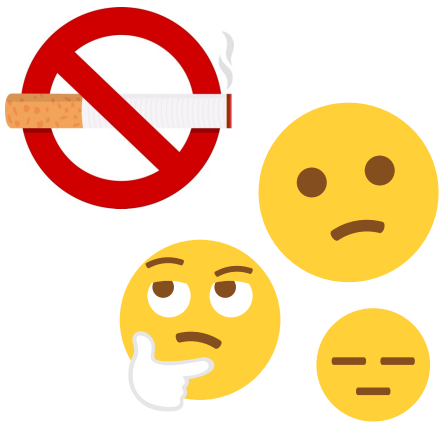
Recent research shows that smoking tobacco or marijuana, taking prescription pain relievers, or using illegal drugs during pregnancy is associated with double or even triple the risk of stillbirth. NIDA. 2022, May 4. Substance Use While Pregnant and Breastfeeding. Retrieved from https://nida.nih.gov/publications/research-reports/substance-use-in-women/substance-use-while-pregnant-breastfeeding on August 19, 2022.

Enough said, just don't do it!

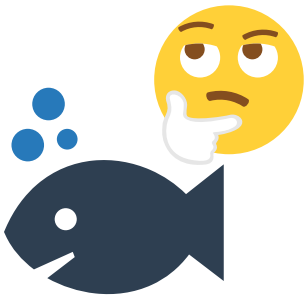
DOES SMOKING REALLY HURT THE BABY?

Absolutely, every puff taken by a pregnant mother gets to the baby and can put the pregnancy at risk for miscarriage, bleeding, stillbirth, pre-term delivery, deformed lungs, and mental defects.

In addition to the very serious problems that can result from smoking during your pregnancy, if you or your partner smokes after the baby is born, you are raising your child's odds of developing asthma and sudden infant death syndrome (SIDS). **The sooner you quit, the better.** Let us know if you need help, as heavy smokers can benefit from using nicotine patches or gum during pregnancy.



COMMON QUESTIONS



CAN I EAT FISH DURING PREGNANCY?

Recently the FDA published an advisory on methylmercury in fish and established guidelines to help women understand the hazards of consuming certain kinds of fish. This advice also applies to breastfeeding moms and small children.

Fish such as shark, swordfish, king mackerel, and tilefish contain high levels of a form of mercury called methylmercury that may harm your baby's developing nervous system. These fish live for long periods of time, and feed on smaller fish, thereby accumulating larger quantities of methylmercury.

Since we know that fish and other forms of seafood can be healthy during pregnancy, the FDA's advice only applies to the aforementioned fish. **Shellfish, canned fish, smaller ocean fish, or farm-raised fish can be safely eaten during pregnancy.**

The FDA has stated that women should limit the intake of these "safe" fish to an average of 12 ounces per week. A typical serving of fish is approximately 3 to 6 ounces.

There is no harm in eating more than 12 ounces of fish in one week as long as you don't do it on a regular basis. One week's consumption does not change the level of methylmercury in the body much at all. If you eat a lot of fish in one week, you can cut back the next week or two and be just fine. Just make sure you average 12 ounces or less of fish per week.

So, what about raw fish, like sashimi? Although the American College of Obstetrics & Gynecologists again in 2017 advised women to avoid eating raw fish, an increasing number of other prominent health organizations have provided different opinions on the matter.

In fact, most other countries approve of women eating raw fish, including one prominent country called Japan. The issues about eating raw fish concern ingesting parasites and bacteria. The general incidence in this country of people becoming sick is incredibly low and is mostly related to eating fish that "my cousin Phil caught in Alaska and yeah, he thinks he stored it okay-should be fine, you'll love it".

Eating sashimi at a restaurant is quite different and the standards are much higher. The industry standard of flash-freezing fish kills parasites effectively (but not the eggs) and restaurants maintain excellent standards, so they provide the best quality food possible while staying out of the crosshairs of the County Health Department and/or public opinion, whichever is worse.

So, if you want to eat sushi or sashimi, have at it. Just don't eat fish from your cousin Phil.

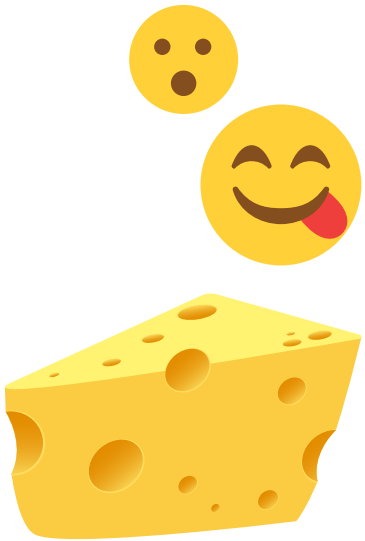
COMMON QUESTIONS

WHAT ABOUT SOFT CHEESES?

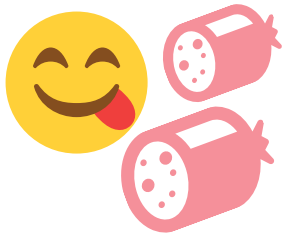
The concern here is related to the bacteria called Listeria, which is commonly found in unpasteurized soft cheeses. Listeriosis can be transmitted through the placenta and to the fetus, without the mother realizing she has been infected with the bacteria. It is best to simply avoid soft cheeses and thus avoid the risk of developing listeriosis.

Soft cheeses to be avoided include unpasteurized Feta, Brie, Camembert, blue-veined cheeses, and Mexican-style cheeses such as Queso Blanco Fresco. The key word here is "unpasteurized."

Safe cheeses are hard cheeses, semi-soft cheeses such as mozzarella, pasteurized processed cheese slices and spreads, cream cheese, and cottage cheese, or any other cheese that is pasteurized.



COMMON QUESTIONS



MY FRIENDS TELL ME NOT TO EAT DELI MEAT

The concern here is also related to the contamination of deli meat with the bacteria Listeria. This is a challenging topic because it is always easier to say "Don't" than "Yes, it's okay." This is like asking me "Is it safe to drive on the freeway while pregnant?" My answer would be "Yes, as long as nothing bad happens." You have a choice to drive on the freeway or not. You can certainly reach most of your destinations using side streets, but it's just less convenient.

First, how common are Listeria infections? According to the CDC, there are about 1600 illnesses and 260 deaths annually in the United States. From 2009–2011, that translated into 0.29 documented cases of Listeria per 100,000 people.

More than one-half of all infections occurred in those older than 65, and about 14% of cases of Listeria occurred in pregnant women, occasionally causing miscarriage, preterm labor, and rarely stillbirth. Although devastating, again, so can driving on the freeway.

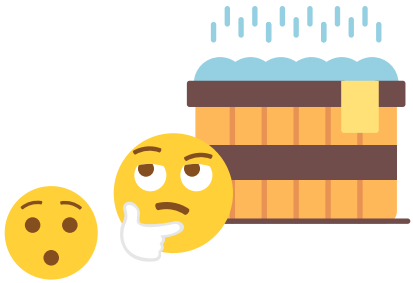
We're not sure the recommendations by the CDC hold water. They recommend heating deli meats until they are steaming immediately prior to consumption. But these meats are already pre-cooked or cured.

Listeria must come to deli meats from another source, like someone's refrigerator or transport containers, etc. One Listeria outbreak in 2011 came from cantaloupes from a farm in Colorado. Do we then heat up cantaloupes and therefore all fruits and vegetables?

We would say, "yes you can drive on the freeway." And "yes, you can eat deli meat." You can heat it up if you choose, or not. Regardless, this infection is incredibly rare and can be deadly whether it comes from deli meat, cheese, fruits, or vegetables.

Hot dogs, on the other hand, must be heated up because they are just plain gross cold, but are great on the grill as long as you don't think too much about what's in them.

COMMON QUESTIONS



WILL A HOT TUB HURT MY BABY?

Dr. Wells has extensively reviewed available medical literature regarding the use of hot tubs during pregnancy. What he has discovered is rather encouraging as long as certain guidelines are adhered to.

Whether or not hyperthermia (fever, or increased body temperature from immersion in hot tubs or sauna use) is teratogenic—able to cause fetal abnormalities—remains slightly obscure. It has been suggested in some studies that hyperthermia early in the first trimester (specifically the first 6 weeks of pregnancy) may be responsible for so-called neural tube defects such as spina bifida and anencephaly. In addition, significant hyperthermia very early in pregnancy has been associated with spontaneous miscarriage. Later in pregnancy, there does not appear to be much risk to the baby.

While the exact temperature elevation that is responsible for fetal damage is not precisely defined, it appears that there must be a critical temperature at a critical developmental stage for there to be damage. This is usually during the time from the attachment of the developing embryo to the uterus, until the completion of organogenesis (formation of all internal organ systems).

It is generally believed that the body temperature must reach at least 102°F in order to increase the risk of neural tube defects. It is uncertain whether or not a hot tub in typical use would raise the core body temperature to this level. In one medical study, 20 non-pregnant women sat in hot tubs heated to 102°F and 105.8°F. Only six were able to continue immersed until their core body temperature reached 102°F. **None of the women reached a core body temperature of 102°F when they spent 15 minutes in the 102°F tub and 10 minutes in the 105.8°F tub.**

From the information in all of these in-depth studies, our recommendations are to enjoy the relaxation provided by hot tubs, keeping the following pointers in mind:

a. Avoid Jacuzzi hot tubs during the first 12 weeks of pregnancy.

b. Avoid prolonged exposure in the hot tub. Get in for short periods of time (10-15 minutes), then get out for brief periods to let your body cool down. This will prevent your core body temperature from increasing to a dangerous level. If you prefer to keep the water hotter, stay in for shorter periods of time.

c. Avoid the Jacuzzi if you have high blood pressure or if we've told you that your baby is not growing properly. (During periods of hyperthermia blood is shunted from the uterus, intestines, liver, and other organs to blood vessels just underneath the skin in an effort to release the body's heat. In a pregnancy that is jeopardized already, we want to minimize the diversion of blood flow from the uterus.)

COMMON QUESTIONS

IS IT SAFE TO HAVE SEX DURING PREGNANCY?

Unless we advise you not to, it is safe to have sex throughout the pregnancy until labor. Examples of complications of pregnancy in which we may advise you to abstain would be pre-term labor, placenta previa (a condition where the placenta covers all or part of the cervix), bleeding of unknown origin, or ruptured membranes. Keep in mind that you may have to be a bit creative with positioning as you get farther along in your pregnancy.

I NEED TO SEE THE DENTIST. WHAT IS ADVISED NOT TO HAVE DONE?

Pregnancy should not steer you away from taking good care of your teeth. Some changes you may notice are gum sensitivity and gum swelling. If mild, this is to be expected. If you go to the dentist for routine care, dental x-rays may be taken. Just make sure they use an abdominal shield to protect your baby. The radiation produced from dental x-rays is very low; so don't be worried.

With abdominal shielding, your baby will not be harmed. If you are in need of more invasive dental work, you can let your dentist know that from an obstetric standpoint, **numbing anesthetics such as Lidocaine or Novocaine are safe, although we discourage the use of Epinephrine**. As long as you are not allergic, antibiotics that are Penicillin-based, Keflex, or Erythromycin should be fine. Pain medications such as Tylenol with Codeine or Vicodin are safe to take during pregnancy.

CAN I GET A MASSAGE DURING PREGNANCY?

Absolutely! Nothing can make you feel better than a massage performed by a therapist who works a great deal with pregnant clients. As pregnancy advances, muscles can stretch and become strained trying to maintain a normal posture and center of gravity. Sore muscles and joints are not likely to cause permanent harm but can sure be uncomfortable.

HUSBANDS or partners: This is a good opportunity for you to let her know that you have no idea how she feels but want to show her that you love her and want her to feel better.

COMMON QUESTIONS

SHOULD MY HUSBAND/PARTNER AND I COME UP WITH A BIRTH PLAN?

You may come up with a birth plan if you wish, although it is not necessary. **More often than not, what you come up with is what we usually do as a routine**. Regarding pain management, you can have whatever you want or go without.

When your baby is born, assuming all is well, we put your little one on your stomach immediately. We'll delay clamping the umbilical cord as long as your baby appears well and your husband/partner may cut the cord if desired. We don't do routine episiotomies, but if we recommend it, please listen to our advice. We are looking out for the long-term benefit of your perineum.

COMMON QUESTIONS

MY FRIENDS TELL ME WE SHOULD HIRE A DOULA

If you think you need to have a doula, **read this and talk to us first…**

To have a doula or not, interesting topic: Here is the "bullet", Wikipedia defines a doula as an assistant who provides non-medical and non-midwifery physical and emotional support during labor and childbirth.

We have worked with a number of excellent doulas over the years. However, over time we have witnessed how the roles of doulas have changed considerably. Unfortunately, we have seen how their role as support person has transitioned into a more overly confident labor management role, despite a lack of formal Labor and Delivery training, no understanding of the subtle nuances that exist during labor that determine outcomes, no ability to assess fetal position within the pelvis, cervix, fetal station, and zero responsibility for the results of your labor decisions of your newborn's condition at birth.

Women increasingly rely on them during labor rather than highly trained L&D nurses, and the midwives and physicians whom they have trusted during their entire prenatal course. To give you a very common example, let's say you are coming in for a medically indicated induction. "You are here for induction of labor and we would like to start your labor by starting Pitocin and rupturing your membranes (breaking the bag of water). Often, this is how we start labor in an effective, efficient way." This is what you are here for, starting the process from ground zero, with the goal of having your baby. And trust us, nobody wants to have exhausting 3-day labor. But instead of saying "yes, that sounds like a good plan based on your having taken care of me for nine months and the fact that you have delivered literally thousands of babies". Women now look to their doula for advice. Doula, who has never independently managed labor or delivered a baby in the hospital in her life, frowns, says, "do we have to do that now? Can't we wait for a while?"

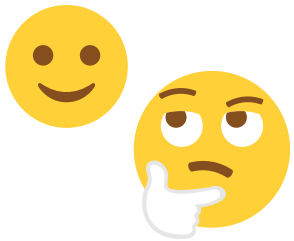
The patient then looks back at us and says "yes, I want to wait". Our heart melts. Our patient who has trusted us for her entire pregnancy now relies on the wisdom of someone who has never "landed the plan" in childbirth in her life. Don't get us wrong, if you come in in active labor, your doula may be an appropriate emotional support person for you. But if you are looking for guidance regarding the last hours of your pregnancy ie "landing the plane", keep in mind this is the time when the path and decisions you choose may impact whether or not you have a vaginal delivery and most importantly a healthy baby. Please don't look to others, look to us. We are here for what is best for your baby and for you! After all, you came to us for a reason. You trusted our reputation and our relationship throughout your whole pregnancy.

COMMON QUESTIONS

WE SHOULD HIRE A DOULA CONTINUED...

In our experience at John Muir, the Labor & Delivery nurses who care for laboring women are excellent at providing support, and they encourage husbands/partners to be involved in providing support as well. We have found that IN GENERAL, husbands/partners can be very attentive and helpful if given the opportunity. Between your L&D nurse and your partner, we are confident you will do very well and have a great birth experience. A close, calming friend can be very helpful as well, and they usually don't charge for their service. For more information about labor, **please refer to our section called Labor & Delivery for more information about what happens at this stage**.

COMMON QUESTIONS



I WANT TO DO THE BRADLEY METHOD OF CHILDBIRTH, IS IT SAFE?

Although less common, **we have helped many women deliver their infants in an un-medicated fashion**. We always leave the decision to receive pain medication, either by epidural or narcotics, to our patients. However, the Bradley Method of natural childbirth is not the same as "un-medicated birth."

In our experience, the Bradley Method tends to allow couples to take their eye off the ultimate prize—safe childbirth, and instead focus on a previously planned process of labor and delivery. We liken the Bradley Method to riding a bike without a helmet or driving a car without a seatbelt.

Most of the time you can ride or drive to your destination without a hitch, but sometimes seatbelts (i.e., so-called "unnecessary interventions") and helmets (i.e., fetal monitoring during labor) can save lives.

It seems that we spend a great deal of time trying to explain to our Bradley patients that they can benefit from our experience of **delivering collectively well over ten thousand babies, and we know all the "tricks of the trade" to get babies out safely and usually vaginally**.

Sometimes "nature" isn't all that kind and doesn't listen to what we want to have to happen, like back in the 1800s. Although we respect couples' wishes to undergo un-medicated, unmonitored, no-intervention-at-all-cost births, we would rather have a relationship with our patients that includes trust in our expertise so we can walk through labor as a real team.

We have always felt that our Bradley patients harbor a certain degree of distrust in our recommendations, and those of the Labor & Delivery nursing staff.

If you wish to go through labor and delivery using the Bradley Method, please let us know. We will be happy to refer you to another colleague, Seriously! **Please read our section on Labor & Delivery** to better understand our birthing philosophy. We desire a happy and healthy outcome to your pregnancy with a wonderful birth experience!

COMMON QUESTIONS

IS IT OKAY IF WE TAKE PICTURES AND VIDEOTAPE THE BIRTH?

We would love for you to record the big event. Take all the pictures and video you want! We advise you make sure your camera has fresh batteries and enough memory on the card(s).

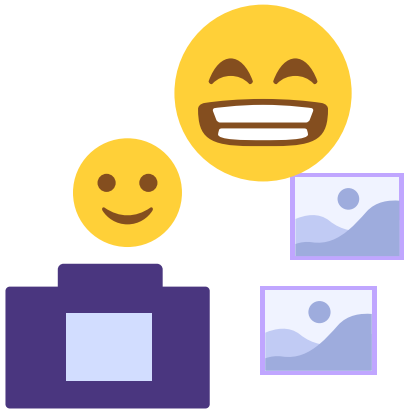
Things to note: The hospital allows pictures and video as long as everything is going okay. If problems suddenly arise during labor or delivery, the nursing staff will ask you to shut down the camera and video use and stay out of the way so we can take care of business quickly. Sorry, Hospital policy, no negotiation on this one.

Lastly, pick the person you want to take pictures or videotape very carefully. For example, there's Grandma, thrilled to be a part of the birth and given the task ("Sure I'll do it," she said excitedly) of videotaping the once-in-a-lifetime event.

On the camcorder/ iPhone screen, there is her daughter and her husband, with delivery close at hand. A perfectly framed couple on the video screen in the most exciting moment of their lives. The baby's head starts to come out, and suddenly on the video screen is the floor alternating with grandma's shoes, a discarded pillow, and a gum wrapper on the ground.

The camcorder is held in grandma's left hand as her right hand loosely covers her mouth. She can't see clearly as tears fill her eyes as she witnesses the miracle. And in the background of the video is grandma's shaky voice saying, "Oh my Lord, oh my, Sweetie, she's beautiful..." "Oh my Lord. "Look at her", and there on the video screen is the floor and grandma's shoes again. Are you getting "the picture" yet? Love you Grandma!

In general, if you want the best pictures or video, ask anyone in the room who is younger than 40 to take them (including a nurse if one is willing and available.



COMMON QUESTIONS

IS DELAYED CORD CLAMPING AT BIRTH A GOOD IDEA?

Here is the bullet: It has been suggested that you can increase iron stores in infants by delaying the clamping and cutting of the umbilical cord until the cord spasms and stops pulsating. And this appears to be true.

At 3 and 6 months, infants with delayed cord clamping had an 8% incidence of iron deficiency compared to 14% of early cord clamping infants, according to a 2013 meta-analysis of 15 randomized trials out of Australia.

This meta-analysis was considered to have only "moderate bias." It is important to keep in mind that also in this study, late cord clamping resulted in a 40% increase in newborns requiring phototherapy for jaundice.

There is no doubt, however, that delayed cord clamping is beneficial for preterm infants or those women in third-world countries, where there is rampant maternal iron deficiency anemia and malnourishment among pregnant women.

A 2012 meta-analysis of 15 studies concluded that premature infants demonstrated less iron deficiency anemia, less need for blood transfusion after birth, lower risk of developing necrotizing enterocolitis, and fewer infants developing intraventricular hemorrhage. Surprisingly, these infants did not demonstrate an increased risk for jaundice requiring phototherapy.

To perform delayed cord clamping properly, the infant is held at the level of the perineum after complete delivery for roughly 90 seconds to 2 minutes. Then the infant is placed on the maternal chest and the cord is clamped and cut (by dad, your partner, or a close friend).

Makes resuscitation, if needed, challenging, especially if meconium is present. More recently, experts have changed their opinion (i.e., we realize this positioning is not desirable for parents so we will now say that putting the baby on the mom's abdomen is the same).

Two other interesting points: First, late cord clamping resulted in higher neonatal hemoglobin levels at 24 and 48 hours after birth, a finding not noted in subsequent assessments. At 3 and 6 months, however, there was less iron deficiency anemia noted in the delayed clamping infants.

Lastly, in the only randomized clinical study comparing delayed vs early cord clamping outside of the neonatal time period, delayed cord clamping improved fine motor skills and social domains at 4 years of age, especially in boys in low-risk populations and children born in high-income countries. Hmmm… Not really sure what to say about that?

This section continued on the next page↴

DELAYED CORD CLAMPING CONTINUED...

Whereas in 2012 The American College of OB/GYNs offered a "Committee Opinion" concluding that currently, insufficient evidence exists to support or to refute the benefits of delayed umbilical cord clamping for term infants that are born in settings with rich resources.

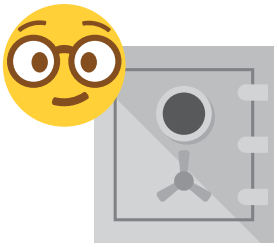
Although a delay in umbilical cord clamping for up to 60 seconds may increase total body iron stores and blood volume, which may be particularly beneficial in populations in which iron deficiency is prevalent, these potential benefits must be weighed against the increased risk for neonatal phototherapy, a follow-up Committee Opinion in 2017, changed it's tune a bit, stating that delayed umbilical cord clamping appears to be beneficial for term and preterm infants.

Then came the caveats – well, it shouldn't be performed for growth-restricted babies as it can screw up their cardiovascular system, shouldn't be done if there is an abruption, placenta previa, or umbilical cord avulsion, and shouldn't be done if the baby was delivered with vacuum assistance. More exemptions to the practice are sure to come.

As a physician not bound to whimsical internet advice, we feel skeptical about our professional organizations changing their opinions due to studies demonstrating less than concrete long-term benefits. Nevertheless, at John Muir Medical Center, we have collectively adopted the practice of 60 seconds of delayed cord clamping in most term deliveries (effectively achieving whatever benefit there may be while cringing at the same time due to possibly increasing risks of newborn phototherapy).

If the pediatricians feel the delay will hinder their ability to resuscitate a newborn infant that appears to be struggling a bit after birth, we will clamp the cord, cut it, and hand the baby to the pediatrician for proper resuscitation.

COMMON QUESTIONS



WHAT SHOULD WE DO ABOUT UMBILICAL CORD STORAGE?

With excellent marketing in progress, we are seeing this question more and more frequently, "Wouldn't you do anything to assure the health and welfare of your child? Storing umbilical cord blood is just one more way to protect your child for years to come."

Who could resist when putting it this way? But here's what the American College of Obstetricians and Gynecologists (ACOG, our national specialty organization) says about cryo-storage of umbilical cord blood, ACOG believes that there are many questions about this technology that remain unanswered. **Parents should not be sold this service without a realistic assessment of their likely return on the investment**. **The odds of needing a stem cell transplant are low – estimated at between 1 in 1,000 and 1 in 200,000 by age 18.**

Commercial cord blood banks should not represent the service they sell as "doing everything possible" to endure the health of children, nor should parents be made to feel guilty if they are not eager or able to invest considerable sums in such a highly speculative venture." (From ACOG News Release, December 12, 2001) It is currently unclear whether the stored umbilical cord blood can accomplish all that is described by the companies in a universally consistent manner.

More recently, ACOG has again revisited this topic. In ACOG Committee Opinion Number 399 (February 2008), it was suggested that the odds of needing a stem cell transplant may be approximately 1 in 2700. Since the first transplant was performed in 1988, there have been over 7000 transplants for the correction of inborn errors of metabolism, blood cell malignancies, and genetic disorders of the blood and immune system.

They still recommend that patients research carefully before moving forward with the process. Yet even more recently, in Committee Opinion Number 648 (December 2015), the number of transplants increased to about 30,000 since the first one in 1988.

Subsequently, in March 2019, Committee Opinion Number 771 updated the information. The key takeaway was the lifelong estimation of having a condition that can be treated with stem cells has increased to about 1:400 - 1:2,500. Since 1988, there have now been 35,000 transplants. **Feel free to check this information out on ACOG.org then enter "committee opinion cord blood banking" in the search field.**

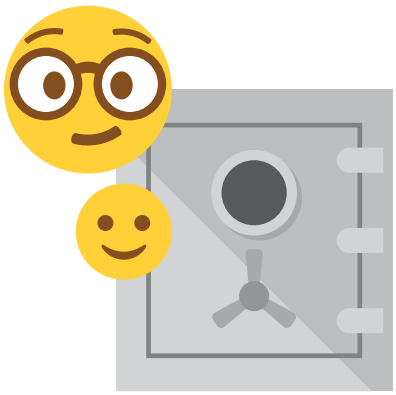
This section continued on the next page↴

UMBILICAL CORD STORAGE CONTINUED...

We have collected blood for probably 10–12 couples in the last 3 months alone. We don't encourage or discourage couples from collecting cord blood for storage. Dr. Wells would say, however, that if he were to have another child (meaning that his vasectomy has failed miserably), he would be much more inclined to store blood than he would have been 10 years ago.

That being said, **if you and your spouse wish to collect blood for storage, please notify us weeks prior to your delivery and again during your labor.** It cannot be collected in a haphazard manner. We will draw the blood into the provided containers, and sign my name where you ask, but it is entirely up to you to read and understand the instructions regarding packing, additional testing, paperwork, etc.

If you're interested in umbilical cord blood storage, please ask us – we have collection kits in the office we can give to you.



COMMON QUESTIONS

I WANT TO TAKE MY PLACENTA HOME AND ENCAPSULATE IT

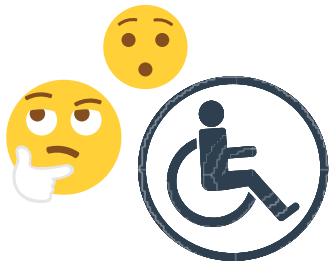
You got us on this one. Knock your socks off! We'll bag it up for you to take home. In solid medical literature, there is one big black hole of information on this topic. It is said to cure just about every illness, mental and physical, similar to what snake oil cured back in the 1800s, despite the complete absence of quality medical studies on it. Yet, people make a bundle on this and spend a bundle.

Our questions are always the same, "what is the dehydration process like?", "What about the sterile technique?", "Any quality controls?", "What happens to the proteins in the placenta?", "Are they denatured (rendered useless)?", "What about bacteria if you had an infection during labor?"

And "How is it that the placental hormones that PREVENT women from initiating lactation during pregnancy all of a sudden HELP them produce more milk when they take the encapsulated pills?"

Lastly, what does powdered meconium taste like? Sorry, the scientist and the cynic in us are coming out. In the complete absence of quality medical information about this, we would probably advise against it. Although the risks are likely low, they are at best, unknown.

COMMON QUESTIONS



DISABILITY & DISABILITY PLACARDS FOR MY CAR

At some point during your pregnancy, you will become disabled. Pregnancy disability comes into play for different reasons. There is the typical disability that is offered to all pregnant women beginning at 36 weeks based on the due date, regardless of when your delivery occurs. And disability that occurs because as a pregnant woman you should not be performing tasks mandated by your type of work or employer, where there is no light duty or alternative work available (think field firefighter or police officer, helicopter transport nurse, flight attendant later in pregnancy, etc.), and disability that comes about because of a documentable physical ailment that truly prevents you from working.

All of these are handled differently and very carefully. The first two of the previously mentioned types of disability are straightforward and should be obtained with ease.

We're happy to help you with your 36-week standard disability process to get you dialed in. If you require disability due to the type of work you do, we ask that you provide proof there is no alternative work your employer may make available for you before we put you out on disability.

Be patient, sometimes this may take some time and cooperation from your employer. As fraud is increasingly present, and because we're historically and comfortably fraud-adverse, there may be many hoops to jump through to obtain disability due to physical ailments. Please don't get frustrated with us.

We want to help but also do not want to commit fraud. We have no problem writing our patients out of work with a simple doctor's note for physical ailments, but when it involves being out of work for a longer period of time and involves money, aka disability checks, people involved with prosecuting criminal activity tend to look more closely.

In addition, we'll ask you to see other specialists for whatever condition may be causing your disability, and request that they write us a letter confirming that they feel you should be out on disability. If such a letter is deemed legitimate, we would then help with the disability process, either short-term or longer-term. Again, we want to help, but we also must protect ourselves in the process. **Please see the section, Postpartum Blues for information about extending postpartum disability.**

Regarding disability placards, we have never filled out paperwork for one, and never will. If you have a medical condition that worsens because of pregnancy, we will have your physician who cares for your condition to help you with placards. We have probably been asked to do so by maybe four patients in the last 15 years, so I know it is most uncommon. We would ask that your primary care physician help you out with this if you feel you should have one.

IMPORTANT STUFF

PRENATAL SUPPLEMENTS

FOLIC ACID

Pay attention to this one! In the amount of 1 mg per day, folic acid is recommended to protect against neural tube defects (spina bifida, meningomyelocele, and anencephaly). By consuming adequate amounts of folic acid, 70% of all such neural tube defects may be prevented as well as other birth defects including cleft lip and palate, cardiovascular, urinary tract and limb defects. Because many of these structures form very early in pregnancy, **we strongly recommend beginning Folic Acid supplementation prior to attempting conception. Obviously, if you are reading this now, you are already pregnant. Nevertheless, if you aren't currently taking folic acid, please start.** If you're looking at food sources for folic acid, try increasing the amount of green leafy vegetables, dark yellow or orange fruits and vegetables, liver, legumes and nuts, fortified bread, rice, and pasta in your diet. If you have ever been diagnosed with MTHFR (a weak blood clotting disorder) Methyl folate is recommended as an alternative to regular folic acid.

VITAMINS

Every pregnant woman takes "prenatals", right? Well, not really. Honestly, we have changed our thoughts on these a bit. We would recommend these for sure for a woman living in any country that is considered "low-income" or low-resourced- but that is definitely not our country. Other countries do not necessarily recommend the routine use of PNVs. They are not routinely recommended, for example, in the United Kingdom.

In our own country, the American College of Obstetrics & Gynecology, IOM, and the CDC recommends "MMNs", Multiple-micronutrient supplements (aka Prenatal Vitamins) for "pregnant people who do not consume an adequate diet". There have been no adequate studies in high-income countries to prove the benefit, so the advice given is varied and not based on scientific studies. In the U.S., we have adopted the "well it won't hurt and may help" attitude. This is probably not that bad of an attitude to have, but we encourage our pregnant women not to look at prenatal vitamins as a lifeline to a healthy pregnancy.

If you choose to take prenatal vitamins, keep it simple. We can send in a prescription for you or you can choose one of the five thousand brands on the market. Please don't ask us "Hey my friend told me this was the best one on the market. Can you look at the ingredients and tell me if it has enough of each of the 64 nutrients and is it safe and is there a better one out there" because if you are relatively healthy, living and eating in the United States, you are probably getting enough micronutrients from your diet anyway. For all of our health-oriented patients who absolutely must take one, or if your diet is seriously that bad, or if you are carrying twins, pick one that ROUGHLY contains folic acid, vitamin A, vitamin D, Vitamin E, Vitamin B1, B6, B12, Niacin, Vitamin C, zinc, iron, selenium, copper, and iodine. You can look up the amounts that are recommended in your spare time, as we do not memorize the daily percentages/doses that are generally recommended. And if you skip a vitamin accidentally, no, you have not destroyed your child and you don't have to go to the Emergency Room. You'll be okay. We promise.

IMPORTANT STUFF

CALCIUM

A very important supplement. It is estimated that more than ninety percent of American women have diets lacking adequate amounts of calcium. A deficiency of this important mineral has been linked to early-onset pregnancy-induced hypertension. Although the exact role calcium plays in this process is not clear, supplementation of between **1000 and 1500mg per day is recommended.** Understanding that an 8-oz glass of milk contains only 95 mg of elemental calcium makes it clear that supplementation beyond normal dietary sources is required. Other dietary sources of calcium besides dairy products include sardines and salmon, collard, kale, spinach, turnip greens, and fortified orange juice. My favorite over-the-counter calcium supplement is Viactiv.

IRON

Is needed specifically in pregnancy for the production of fetal and maternal red blood cells. Because there is a natural tendency for very mild anemia to develop during pregnancy, it is important to have adequate supplies of iron for red blood cell production. Low red cell counts have been associated with premature labor, and significant anemia at the time of delivery increases the likelihood of requiring a blood transfusion should an intrapartum or postpartum hemorrhage occur. In pregnancy, the demand for red cell production is so great that it is difficult to meet iron needs by diet alone. Dietary sources of iron include lean red meat, liver, dried beans, whole-grain or enriched bread and cereals, prune juice, spinach, and tofu. Our favorite over-the-counter supplement is **Slow-Fe or Bifera**.

PROBIOTICS

Are popular but there is no medical evidence that currently exists to suggest either benefit or harm.

DHA/EPA

Are long-chain polyunsaturated fatty acids. DHA is necessary for the normal development of the fetal brain and retina. Seafood consumption during pregnancy has been associated with favorable cognitive development in offspring. **DHA goal: 200-300mg/day or the tastier option of 8-12 ounces of seafood/week.**

IMPORTANT STUFF

MEDICATIONS + PREGNANCY

By Most medications can be safely used during pregnancy; however, we recommend their use only when clearly indicated. We have prepared a list of most medications that are commonly used during pregnancy. Although sometimes necessary, it is best to avoid use of medications during the interval period of "organogenesis." This begins at week 6 and continues until about week 10.

SORE THROAT/COUGH LOZENGES

1. **Cepacol, Halls, Robitussin, or any other. They are all safe.**

COUGH & COLD PREPARATIONS

1. **Tylenol** for general aches and pains, including joint pain and headaches, and body aches. Use in such doses as necessary. As one regular Tylenol rarely will make a person feel any better, take it in the same way you would if you were not pregnant. **Tylenol PM (aka Tylenol/Benadryl) may be taken at night.**
2. **Sudafed or Actifed** for runny nose and congestion
3. **Robitussin DM** for cough. **Robitussin AC** is available by prescription for patients with a cough not relieved by Robitussin DM and who are not allergic to Codeine.
4. **We still recommend rest, chicken soup, and time as the best medication for colds. Antibiotics are widely desired by patients for colds, but unfortunately, colds are almost universally VIRAL in origin, which means that antibiotics are not helpful in their treatment, unless they last longer than 10 days.**
5. **Other cough syrups, and multi-symptom preparations:**
    a. **Robitussin** (Dextromethorphan Hydrobromide)
    b. **Triaminic** (Phenylpropanolamine/ Chlorpheniramine)
    c. **Dimetapp**
    d. **Thera-flu** (Dextromethorphan/ Chlorpheniramine/Pseudoephedrine)
    e. **Actifed Cold & Sinus** (Triprolidine)
    f. **Vick's Nyquil or Dayquil**
    g. **Mucinex**

WHAT DO THE INGREDIENTS IN COUGH SYRUPS DO?

Guaifenesin. Works as an expectorant. It makes lower respiratory tract fluid less viscous, which promotes the removal of more mucous by making a dry non-productive cough more productive & less frequent

Phenylpropanolamine acts on alpha-adrenergic receptors producing vasoconstriction, which results in the shrinkage of swollen mucous membranes and an increase in nasal airway patency. This medication may cause drowsiness.

Pheniramine maleate is an "anti"-histamine. Histamine release causes capillary leaking, which leads to swollen mucous membranes. Marketed also as Brompheniramine and Chlorpheniramine.

Dextromethorphan is simply an anti-tussive or anti-cough medication that raises a person's threshold for needing to cough.

IMPORTANT STUFF

ALLERGY MEDICATIONS

1. **Benadryl or Actifed** (can make you pretty drowsy) **or non-drowsy Sudaphedrine.**
2. **Tavist-1 or Chlortrimaton.**
3. **Afrin nose** spray (its use may be physically addicting because of rebound symptoms when you stop using it. Therefore, we like to limit its use to 3–4 days only). It works great though.
4. **Claritin, Zyrtec, and Allegra** are safe and VERY effective and are now available over the counter.
5. **Nasacort or Flonase** is safe for seasonal allergies. Flonase works best because it treats itchy eyes as well.

YEAST INFECTIONS

1. Over-the-counter preparations such as Monistat or Gyne-Lotrimin are safe to use in pregnancy. The applicators can safely be inserted up to two inches into the vagina. If used only externally, yeast infections will rarely be treated appropriately.
2. Oral yeast medications such as **Diflucan** should probably be used as a second-line medication and only after the end of the first trimester since the vaginal preparations have such a well-established safety profile**. Diflucan** can, however, be used freely while breastfeeding.

NAUSEA & VOMITING

When the usual preventative measures don't work well enough, we can prescribe a variety of medications, depending on the severity and duration of symptoms. Prolonged periods of nausea and vomiting, may require hospitalization for rehydration and electrolyte management.

1. **Diclegis.** Our first choice, the active ingredients in this medication has been around for a LONG time and have proven to be safe. The dosing regimen although complicated is long-lasting, and very effective. An available longer-acting "Diclegis" is called **Bonjesta.**
2. **Zofran. A powerful anti-nausea. medication used for stubborn cases.** This works very well but requires a prescription.
3. **Reglan. This stimulates gastric muscles to empty the stomach quicker, thus decreasing nausea.**
4. **Compazine or Phenergan.** Both come orally or in rectal suppositories, and can make you sleepy.

HEADACHES

1. **Tylenol.** Take 2–3 extra-strength every 6 hours if needed. This usually suffices.
2. **Advil** is safe to use for headaches that occur infrequently until 30 weeks of pregnancy, after which we discourage its use.
3. **Midrin. For migraine sufferers,** we typically prescribe Midrin, which is taken as follows: 2 pills orally, followed by 1 pill every hour until the headache is gone. There is a maximum of 5 pills used per 12 hours. An alternative to Midrin (sometimes tough to find at pharmacies) is **Fioricet (don't take this after 32 weeks).**
4. **Alternatives for severe headaches include Tylenol with codeine or Vicodin.**

IMPORTANT STUFF

SKIN RASHES

1. **1% Hydrocortisone cream.** Since this medication is poorly absorbed through the skin and does not cross the placenta, it is recommended for use with various skin rashes.

HEMORRHOIDS

1. **Hydrocortisone cream 1%.** This works well. For severe hemorrhoids, this may be obtained via prescription in a **stronger 2.5% formula.**
2. **Cortizone 10.**
3. **Preparation H – useless in our opinion.**
4. **Anusol HC.**
5. **Tucks medicated pads** (contains 50% witch hazel)
6. **Nupercainal.**

DIARRHEA

1. **Kaopectate or Imodium AD. Generic Loperamide is cheap and safe and probably works the best.** If diarrhea persists for several days despite the use of these medications, please let us know.

CONSTIPATION

1. **Colace** 100mg twice daily
2. **Milk of Magnesia** 30 cc twice daily
3. **Metamucil**

GAS PAIN

1. **Gas – X**
2. **Simethicone**

MILK INTOLERANCE

1. **Lactaid.**
2. **Dairyease.**

INDIGESTION, HEARTBURN, OR REFLUX (GERD)

1. **Tums, Maalox, or Mylanta for mild symptoms.** If these don't cut it, skip right to the next group of medications!
2. **Famotidine (Pepcid) 20-40mg twice daily; Cimetidine (Tagamet) 400-800mg once every night at bedtime; Pantoprazole (Protonix) 40-80mg once daily; Lansoprazole (Prevacid) 15-30mg once daily.** Generic brands are just as good here!
3. **Omeprazole (Prilosec) 20mg twice daily; Esomeprazole (Nexium) 20-40mg once daily.** Again, go with generics here.

VAGINAL DRYNESS

1. **Replens, Lubrin, and Vagisil** all work well as needed.

SLEEP AIDS

1. **Benadryl/Tylenol P.M**.
2. **Hot shower**
3. **A** *very rare* **glass of wine**
4. **Boring book**

MUSCULAR ACHES AND PAINS

1. **Tylenol** for minor aches and pains of pregnancy. The most common safe medication taken.
2. **Advil** is safe to use periodically until 30 weeks of pregnancy, after which we discourage its use.
3. **Flexeril** is a potent muscle relaxer that may be used safely in pregnancy for severe muscle strains. This comes by prescription only and will make you very sleepy.
4. **Rest and a heating pad. Probably the best medicine.**

IMPORTANT STUFF

HERPES VIRUS OUTBREAKS (oral or genital lesions)

All medications related to **Acyclovir** may be used during pregnancy. This list includes **Zovirax** (oral capsules or cream), **Valtrex**, and **Famvir.**

ANTIBIOTICS

Safe antibiotics include **Amoxicillin, Penicillin, Zithromax (azithromycin), Erythromycin, clindamycin, Keflex, and topical triple antibiotic ointment (Neosporin). Macrobid** can be used *but should be avoided during the last few weeks of pregnancy and while breastfeeding.* Antibiotics **NOT recommended during pregnancy include Doxycycline** and **Tetracycline**, and **sulfur-containing antibiotics**.

FACIAL WASHES

Generally speaking, over-the-counter (OTC) facial washes for acne and other purposes are safe to use during pregnancy, even if they contain salicylic acid or Retinol (vitamin A). Prescription Retin-A cream may be used during the second and third trimesters for severe pregnancy-related acne. **Again, we recommend avoiding these medications during weeks 6 – 10, when major organs are being formed.** The skin is an excellent barrier, therefore topical creams have to be specially designed to allow the penetration of chemical compounds through the skin and into the bloodstream. Due to the abundant varieties of washes on the market, not every specific chemical ingredient can be formally studied. Although they may say on the packaging "if you are pregnant, please speak with your doctor about taking this medication", we will likely have no information about studies on safety during pregnancy. But in general, I would feel comfortable using common OTC skin and face wash products.

VACCINES SAFE TO RECEIVE DURING PREGNANCY

Tetanus – diphtheria booster (every 10 years normally, but definitely you should get this during each pregnancy, even if closely spaced), **Hepatitis A, Hepatitis B,** Influenza (now recommended for all pregnant women during flu season, regardless of gestational age), and **Pneumococcal. Covid Vaccines** are still being evaluated but every organization under the sun is recommending them.

MISCELLANEOUS

Other safe medications for medical conditions include the following: **Synthroid/levothyroxine** for hypothyroidism, inhalers for asthma such as **Proventil, Albuterol, atro-vent**, **and steroid-containing inhalers**, **Terbutaline** or **Nifedipine** for premature labor, and **Progesterone suppositories or tablets** for bleeding early in pregnancy, **Labetalol or Procardia XL** for chronic or gestational hypertension, Prednisone for gestational thrombocytopenia; these medications can be used safely during pregnancy. Lovenox or Heparin is safe and used for conditions where intravascular blood clothing is an issue.

IMPORTANT STUFF

EXERCISE DURING PREGNANCY

We generally recommend exercise throughout the entire course of pregnancy and on a near-daily basis. Keep in mind that special circumstances may arise that cause us to change our recommendations for you. **Medical studies have shown that women who exercise during the entire course of their pregnancy tend to experience less discomfort during pregnancy and less pain during labor**. **Additionally, some labors are thought to progress quicker** in women who have been participating in regular aerobic exercise.

There are some things that are important to consider when deciding which exercises will be best for you.

1. **Increased Stress on Joints:** Hormones produced during pregnancy cause ligaments that support the joints to become relaxed. This is especially true later in pregnancy. These changes will make your joints more mobile and at risk for injuries. Therefore, we discourage you from participating in jerky, bouncy, or high-impact motions that would increase your risk of injury.
2. **Balance:** As the uterus grows, you will be carrying as much as 20 to 30 pounds by the end of your pregnancy, primarily located in the front of your normal center of gravity. This will affect your balance and again place you at risk if you are participating in higher-risk exercises. Additionally, the shift in balance will cause more back pain and back strain.
3. **Heart rate:** Current recommendations of maximal heart rate during exercise while pregnant have been removed from the American Congress of Obstetrics and Gynecology's opinion. A recent article written by exercise guru and Dr Wells' former mentor at USC, mention that heart rate monitoring was inherently inaccurate and instead a numeric scale on perceived intensity should be adopted. To simplify, it is said, that if you can carry on a conversation while exercising, you should be fine. If you are gasping for air while you are exercising, you are likely overdoing it.

It's important to choose safe exercises, keeping the above in mind. Most exercises are safe during pregnancy. However, **we discourage you from exercises such as water skiing, snow skiing (after 16 weeks), surfing, scuba diving (because of pressure changes), roller-blading, horseback riding, mountain biking, and high-impact aerobics.** Additionally, we recommend that you avoid deep knee bends, such as squats with weights, and exercises that cause you to strain in the same way as if trying to have a bowel movement when constipated (we'll save this exercise for labor and delivery).

Exercises we encourage are walking, jogging, walking on a treadmill, cycling on a stationary bike, and using a Stairmaster or Orbitrek elliptical trainer. The exercises we recommend most are swimming (best for overall toning, strengthening, and stamina), walking hills, or riding a stationary bike. Sit-ups may be done early in the pregnancy; after approximately 20 weeks of pregnancy, you will find that it is more uncomfortable to do sit-ups, and you will see little benefit. Modified small crunches can be done during the entire pregnancy to maintain strength in your abdominal muscles.

IMPORTANT STUFF

EXERCISE DURING PREGNANCY CONTINUED...

During the course of exercise, **remember to keep yourself well hydrated**. Constantly take sips of water to prevent dehydration and keep your body cool. Dress so that you stay cool as you exercise. Do not bundle up too much and increase your core body temperature.

It is best to start with a 5-minute warm-up to prevent joint or muscle injury and to end with a 5 to 10-minute cool-down period. The length of time that you exercise is entirely up to you, but 45 minutes at a shot seems like a good time period and can be done every day.

If you experience any chest pain or unusual shortness of breath or an erratic heart rate during exercise, stop immediately. If persistent, call 911 or go to the nearest emergency room. If it is not severe you can call us but honestly, your PCP would be a better person to talk to about it. Do contact us, however, if you experience bleeding or a gush of water from the vagina, or contractions every 10 minutes or closer for at least two hours that do not resolve with rest (and if you are less than 36 weeks).

Again, the benefits of safely performed exercise clearly outweigh the risks. We would encourage you to continue until the end of pregnancy and be consistent on a near-daily basis along the way.

IMPORTANT STUFF

TRAVEL DURING PREGNANCY

Most women can travel safely until 36 weeks by following a few simple guidelines. Women who have special health problems that need special medical care should consult their doctor prior to any travel.

The most comfortable time for most pregnant women to travel is during the second trimester (14 - 28 weeks of pregnancy). We do not recommend travel in the late third trimester unless specifically cleared by the physician. **A copy of your prenatal records should be obtained and carried with you at all times beyond 24 weeks of pregnancy.** You may request this from our receptionist prior to your departure.

TIPS FOR PLANE TRAVEL

Keep your plans simple. Pregnancy can become suddenly complicated, and when travel may be restricted, you may want to consider travel insurance for non-refundable tickets.

Get an aisle seat. This gives you the ability to walk around and get to the bathroom easily. Your seat Neighbors will appreciate that. Also, do leg extension and flexion exercises to help prevent Swelling and leg cramps.

The forward part of the plane. This area usually provides a more stable ride.

Wear a few layers of light clothing. Giving you the freedom to bundle up or remove layers. Wear shoes and clothing that don't bind.

Eat lightly. Helps to avoid being airsick. Take some crackers, juice, or other light snacks with you to prevent nausea.

Drink plenty of fluids. The air in the cabin is dry.

Walk around frequently. This decreases swelling and helps make you more comfortable.

TIPS FOR AUTO TRAVEL

Make each day's drive short enough to be fun. No more than five or six hours of driving each day is a good target. Take 10–15 minute "stretch" breaks every hour.

Airbags do not replace seat belts. It is always safer to wear a seat belt than not to wear one. Unless the mother has a serious injury, the fetus is not likely to be harmed. However, if you are in an accident, you should call us and come in so that we can make sure that you and your baby are okay.

Flexion and extension of the legs periodically will help with swelling and leg cramping if they occur. Do these frequently as a preventive measure.

TIPS FOR FOREIGN TRAVEL

When traveling to areas that may expose you to the bacteria that cause traveler's diarrhea, we recommend the following:

- Drink only pure bottled water, canned or bottled juices and soft drinks, or pasteurized dairy products. Don't put ice in your drinks.
- Drink only out of paper cups or from the bottle or can itself. Don't drink out of glasses that may have been washed with unpurified water.
- Eat fresh fruit and vegetables only if they have been cooked or peeled.
- Avoid raw or undercooked fish or meat unless you are at a very reputable place.

When you are traveling abroad to areas of the world that may expose you to different and unusual illnesses, you may want to **check out the CDC's website www.cdc.gov for world travel health information.**

IMPORTANT STUFF

MEDICAL PROBLEMS

HYPERTENSION

High blood pressure may be pre-existing to pregnancy, called “chronic hypertension” or may arise during pregnancy. If you have chronic hypertension, it is important that the condition is under control prior to conception.

Some anti-hypertensive medications are not safe during pregnancy, but many are. Therefore, it is important that you speak with us and the person who has been treating you so that together we can change your medication if necessary to one that is known to be safe during pregnancy. Major risks during pregnancy in women with chronic hypertension include having a baby that is smaller than expected (called intrauterine growth restriction) or premature separation of the placenta from the wall of the uterus prior to delivery (a very rare condition called placental abruption, which may produce very heavy bleeding typically later in pregnancy).

In addition, chronic hypertension may lead to a potentially more serious hypertensive illness known as preeclampsia. **Frequent blood pressure monitoring and fetal testing later in pregnancy are paramount to achieving a healthy outcome**. We will let you know what things to do to keep you and your baby safe.

PREECLAMPSIA / GESTATIONAL HYPERTENSION

Some women may develop a unique form of hypertension generally later in pregnancy, where they previously had completely normal blood pressure. The reason for this is currently unknown. We typically use an elevated blood pressure of greater than 140/90mmHg on two separate occasions 4 hours apart in a pregnant woman beyond 20 weeks where prior blood pressures were normal to entertain the diagnosis.

If you do develop increasing blood pressure, first and foremost, don’t panic, and please please please stay off the internet! Although preeclampsia can progress somewhat quickly, that is a relatively rare occurrence. Typically, it progresses over weeks, in a time frame that allows for proper diagnosis and appropriate treatment.

Whereas women with gestational hypertension don’t typically spill protein in their urine, women with pre-eclampsia do spill varying amounts (remember that this is something we test for at each of your prenatal visits). Plus, they may have a sudden increase in swelling, especially in their face, but also hands. Although swelling is common in hands and feet during pregnancy, pre-eclampsia swelling can be a head-turning phenomenon, like “Man, what happened to your face”? Sorry, makeup will not help.

IMPORTANT STUFF

PREECLAMPSIA /GESTATIONAL HYPERTENSION CONTINUED...

If you are diagnosed with preeclampsia or gestational hypertension, the treatment is ultimately fairly straightforward, as **delivery generally reverses the worsening trend of elevated blood pressures** in short order. The route of delivery is determined based on several factors including the severity of the disease and the expected length of labor. We always choose induction of labor with the goal of a vaginal delivery if it is deemed safe. In our recommendation for the timing of delivery, we must balance the risks of ongoing/worsening blood pressure with the benefits of waiting for the baby's sake.

If you are 28 weeks with mild preeclampsia there is a great benefit to your baby in waiting to deliver you, to optimize your baby's chances of being healthier at birth. If you are 37 weeks, waiting can increase the risk to you, with no appreciable benefit for your baby. The decision regarding the timing of delivery is honestly best left to us.

While waiting for delivery, **we may recommend a steroid injection series that helps to mature your little one's lungs if you are less than 34 weeks, lab tests to assess the severity of the disease, and follow-up tests to track progression and recommend "Antepartum Surveillance" or "Non-stress Tests" which allow us to assess the health of your baby.**

Please see our section on Antepartum Testing for more details. After delivery, this hypertensive condition usually resolves completely. Sometimes you may need anti-hypertensive medications for a short period of time, say one to three weeks, but sometimes not.

Let's say that you say to us, "I feel fine, and I know you are recommending delivery because my blood pressure is 160/105, but I really want to wait until after my baby shower next Thursday." Well, then we have to talk about seizures from swelling around the brain, Intracranial hemorrhage (brain bleed) due to fragile blood vessels in the brain bursting after being pushed beyond their capacity, placenta shearing off the wall of the uterus, and a swollen liver bursting causing intra-abdominal hemorrhage. And now you are thinking "why are you mentioning all of these horrible things?!" Our answer is simply that we want you to leave the timing for delivery up to us, so we don't have to manage these challenging scenarios.

Now that you may be reading this, slightly pale and emotionally uncomfortable and wanting to check your blood pressure, resist the urge - it will be high.

Keep this in mind: We manage chronic hypertension, Gestational hypertension, and preeclampsia all the time and we treat them well. We consult with the perinatologists when necessary (for unique situations) and outcomes are almost universally positive, keeping moms and babies safe. So please don't panic! As we journey through this, understand that we don't have a crystal ball that will tell us how your hypertension will progress, but that doesn't mean we don't know what we are doing.

IMPORTANT STUFF

GESTATIONAL DIABETES (GDM)

Between 24-28 weeks, we will have you do a screening test to determine if you've developed Gestational Diabetes. The test consists of consuming a drink containing 50gm glucose that tastes like a flat Orange Crush, followed by a blood glucose (BG) blood draw one hour later. If the test comes back normal, you're done. You don't have gestational diabetes. If it is greater than 139, this screening test indicates that you should do a follow-up diagnostic test.

A fasting blood draw is performed, followed by the consumption of a 100gm glucose drink (same flat soda taste). Blood draws are then done one, two, and three hours later (bring a book!). If two of the four values of this test are abnormally elevated, you have Gestational Diabetes!

Women are often somewhat devastated by the news, feeling like "how could this happen to me?! I work out, I eat healthily, and nobody in my family and none of my friends even have diabetes. My body is failing me!" **Oftentimes, GDM is diagnosed in just that individual.** But stay strong and optimistic! Well-managed gestational diabetes will likely represent an inconvenience, more than a true risk for you and your baby. Generally, outcomes are excellent if you're able to keep your blood sugars in very good control. This is typically what we see.

We have had a few women approach us asking for alternatives to the glucose testing such as consuming 28 jellybeans, or 10 candy twists, etc., or they simply decline the test in favor of testing their own blood sugars with a fingerstick monitor. Seems like jumping through a lot of hoops to avoid a few tests.

In our practice, we follow the America College of Obstetrics and Gynecology's recommendations. The pediatricians who will be caring for your newborn at the hospital only recognize ACOG's recommended testing protocol. If you choose to go "off-grid", or decide to decline to test altogether, your baby will fall into a category of "unknown GDM status."

After birth: Protocols developed in this situation (geared to keeping your baby safe) include Heel-Stick Blood Glucose testing prior to your every 2-3 hour feedings for 24 hours. Doing the math, that is 8-12 sticks to your baby as long as each "BG" returns with a safe level greater than 40mg/dl. If one value returns less, then the staff will encourage formula to increase the glucose levels (think baby's brain food). If subsequent levels don't improve, an IV is placed and it's off to the Neonatal ICU for observation. Again, our personal/medical opinion is that it is easier just to do the darn test.

The other question we often hear is "what can I do (i.e.., what behaviors can I change) to make the result return normal?" To me, that has the same logic as "How can I cheat on the test that decides whether or not I am currently having a heart attack?" Huh? Our advice is to just take the test, accept the result, and move on. If you have gestational diabetes, you want to treat it to prevent bad outcomes.

IMPORTANT STUFF

GESTATIONAL DIABETES CONTINUED...

What bad outcomes, you may ask? Uncontrolled pre-existing or gestational diabetes may present a few obstetrical problems. For moms, there may be increased risks of developing preeclampsia, having to have a cesarean section for delivery, and the increased possibility of developing Type 2 diabetes later in life.

For babies, fetal macrosomia, a term given to babies that are inappropriately large for gestational age, may occur as a result of poorly controlled blood sugars. This can lead to a "shoulder dystocia" at the time of birth, where the baby's head delivers but the shoulders get stuck, leading to a challenging delivery and the possibility of birth trauma. Think of it this way, mom has diabetes, meaning the glucose from consumed food isn't fully stored in her tissues due to the body's resistance to insulin. The result is increased circulating levels of glucose.

Sugars freely cross the placenta and enter the baby's bloodstream. The baby has no problem storing glucose because his/her insulin works perfectly. So essentially glucose gets effectively stored in tissues increasing weight and girth, especially in the upper abdomen/shoulder area. Picture you're babysitting inside the womb with a constant supply of donuts. Get the picture? At the time of delivery, just after the umbilical cord is cut, the pipeline of glucose stops. Since the baby's insulin levels are still higher than normal, still effectively storing the glucose, there may be a sudden precipitous drop in circulating glucose levels, called "Neonatal Hypoglycemia" which should be corrected promptly to avoid neurologic sequelae.

Lastly, stillbirth is always a concern although very rare. We don't want to dwell on that, as realistically, we have not had a patient in over 25 years experience a fetal demise as the direct result of gestational diabetes—but then again, virtually all of our patients take it very seriously and do everything possible to keep their diabetes under control.

Okay, so let's say you have been diagnosed with Gestational Diabetes. The next step is a referral to the John Muir Diabetes Center where diabetes specialists will educate you more than you can possibly imagine, and get you started on the path of BG surveillance and dietary changes. All with the goal of achieving the range of glucose levels that will keep your baby from weighing 11 pounds (exaggeration). Typically, dietary changes and exercise alone can accomplish "euglycemia", or normal glucose levels. Sometimes, however, daily insulin injections are necessary and are very effective at normalizing these levels.

If you have been diagnosed with GDM, we will likely recommend a few extra things during your prenatal course; An ultrasound at 36 weeks to make sure your baby is appropriately grown, and delivery at or soon after 39 weeks (shoulders and stillbirth). If you are taking insulin, we will add twice-weekly Antepartum Testing beginning at 32 weeks, as there is an increased risk (again, very rare) of stillbirth.

If your GDM is diet controlled, the risk of stillbirth is not elevated, and we typically do not feel that Antepartum Testing is indicated unless you have other medical issues that also increase your risk for adverse outcomes. There is no uniform consensus from the American College of Obstetrics and Gynecologists on this last statement, however.

IMPORTANT STUFF

ASTHMA

This lung disorder that causes wheezing and breathing problems, fortunately, does not necessarily worsen because of pregnancy. Most women with asthma can go safely through pregnancy. Most of the medicines are safe to take **check out the Medications in Pregnancy section**. Pregnant women with acute exacerbations should be treated aggressively to maintain good oxygen flow to the growing fetus. Primary Care physicians usually manage our patients with complicated asthma symptoms. If your asthma is flaring, call them!

EPILEPSY

If you have a seizure disorder, we will need to discuss which medication you are taking, as some medications are to be avoided during pregnancy. As a general rule, however, if your seizures have been frequent but are controlled on a specific medication, we will most likely keep you on that medication for the duration of your pregnancy. In this situation, the risk of the illness is greater than the risk to the fetus. If you are on medications for a seizure disorder, we would ask that you stay in touch with your neurologist, especially if any unusual symptoms develop.

LUPUS AND OTHER RHEUMATOLOGIC ILLNESSES

Systemic Lupus Erythematosus (SLE) is a disease that can affect nearly every organ system in the body. There is an associated risk of miscarriage, preterm birth, fetal heart defects and arrhythmias, and stillbirth in pregnancies complicated by SLE. Typically, pregnant women with SLE and other arthritic illnesses such as rheumatoid arthritis will need perinatology consultation early in pregnancy in addition to seeing their Rheumatologist. Corticosteroids (safe for the fetus) and aspirin-like medications may need to be taken during pregnancy.

THYROID DISEASE

The demand for thyroid hormone increases during pregnancy. If you have hypothyroidism, it will be important to make sure your dose is adjusted correctly prior to the start of your pregnancy. Interval blood tests will reveal whether or not your medication will need to be increased or decreased. If your condition is under control, you should anticipate no problems related to the thyroid gland during your pregnancy. Please let the person involved in treating you for your thyroid disease continue to do so.

IMPORTANT STUFF

HEART DISEASE

Mitral Valve Prolapse (MVP) is very common and should not complicate your pregnancy. If you have MVP, you will need to take prophylactic antibiotics during labor and delivery or for any invasive procedures. Other structural heart defects must carefully be reviewed, as some are quite dangerous for a woman because of fluid changes associated with pregnancy. If you are aware that you have a structural heart defect such as mitral stenosis, Tetralogy of Fallot (uncorrected), Marfan syndrome, pulmonary hypertension, or a history of myocardial infarction, please discuss this early in pregnancy. You will need to see a perinatologist due to the high-risk nature of these defects.

If you are aware of any other medical problem that you feel may cause a problem for you during your pregnancy, please let us know. A consultation will be available for you if necessary.

ANTEPARTUM TESTING

Antepartum Testing (APT), a term used synonymously with Antepartum fetal surveillance (AFS), refers to a number of available tests geared to providing a sense of security regarding the health of the baby, both currently and in the near short term, in an effort to avoid tragedy. The most common of the AFS strategies is fetal kick count assessments - please see the section on Kick Counts. For the remainder of this section, I am specifically referring to the standard Antepartum Testing regimen, provided by our esteemed perinatal colleagues at Diablo Valley Perinatology. Testing includes two components (more if indicated): **The NST**, the acronym for a non-stress test, and **the AFI**, or amniotic fluid index.

The NST is based on the premise that a neurologically intact baby in the womb will demonstrate heart rate accelerations over time associated with normal movement. These accelerations, called “reactivity”, indicate the baby is reacting appropriately to its environment. Accelerations are very reassuring and if absent, may signal a problem with adequate blood flow through the placenta that may impair oxygenation transmission to the fetal brain, causing central nervous system depression. Of course, it can also mean that the baby is asleep - the more likely reason. We must take the results with a bit of comprehensive understanding.

Think of the NST as putting your ear to a wall, listening to what is going on in the next room to see if someone is okay. Sometimes you may hear happy chitter-chatter, sometimes laughter, sometimes crying, but you may also hear the sounds of someone choking. Most of the time, however, it's happy sounds that we hear.

Typically, the list for those we recommend twice weekly NSTs may include the following complications of pregnancy: pre-pregnancy hypertension or diabetes; gestational hypertension (preeclampsia) or diabetes; Chronic renal disease; maternal heart disease; fetal growth restriction; prior fetal demise; some twin pregnancies; late-term or post-term pregnancy; low amniotic fluid; and other maternal medical or fetal conditions not listed here.

It seems, for better or worse, the list grows every year. The recommendations are provided to us by The American College of Obstetrics & Gynecologists, as well as the current standard of Obstetric care.

IMPORTANT STUFF

ANTEPARTUM TESTING CONTINUED...

If we refer you for Antepartum testing, we are not trying to torture you. We are looking out for your baby!

Testing occurs twice per week, generally beginning at 32 weeks and continuing until you deliver. During your visit, the staff will attach two monitors to your belly – one to pick up the baby's heart rate, the other for contractions you may be having. You may be there from 20 minutes to an hour. It is best if you eat something before the testing to wake your baby up (so they will be moving and demonstrating heart rate accelerations quickly).

When you return for your second visit of the week, an NST will be repeated along with a brief ultrasound to check the level of amniotic fluid present in your uterus (since the amniotic fluid is largely fetal urine, “well hydrated” babies have lots of amniotic fluid, while baby’s that are “starving” a bit, possibly through the reduced transmission of nutrients through the placenta, may not produce enough urine/amniotic fluid.

If either test is abnormal, which is not that common, the high-risk physicians at DVP will speak with you directly, then will call us to keep us in the loop. Together, we will plot a course for managing whatever abnormality is found. In this way, we will give you and your baby the best opportunity for a successful and healthy birth.

IMPORTANT STUFF

SLAP-CHEEK

The agent that causes "fifth disease" (Erythema infectiosum, or "Slap-Cheek") is a virus called Parvovirus B19. It affects only humans, and it is transmitted by the spread of respiratory secretions and hand-to-mouth contact. Many pregnant women are concerned about exposure and the potential effects on the fetus. **We have listed "the true facts" related to the virus:**

1. The infected person is contagious 5–10 days after exposure, yet prior to the onset of the characteristic rash or other symptoms.
2. Approximately 50% of pregnant women are immune to Parvovirus B19. In other words, half of the women can't get it because they've had it before and are unlikely to get it again.
3. Only 5% of women who are casually exposed will become infected (if they are part of the susceptible 50%).
4. Susceptible women who have intense and prolonged exposure to parvovirus B19 infection (teachers in a school with a parvovirus epidemic) have about a 20% risk of infection.
5. Women in households where children or other household members are infectious have up to a 50% risk of infection.
6. When maternal parvovirus B19 infection occurs in pregnancy, The fetus is usually not affected. The maternal-fetal transmission rate is about 20%.
7. The risk of fetal death related to infection appears to be less than 10%. The major risk of infection is a miscarriage (between 10 and 20 weeks). Fetal anomalies (deformities) have not been associated with maternal infection.

What to do if exposed: If you are directly exposed to "Slap-Cheek," don't panic. First, let's find out if you're immune. Call us and we'll send you out for a blood test to see if you've been exposed and have built up antibodies against the virus sometime in your past. If the blood tests indicate that you're immune, that's the end of it. No risk for you or the baby. If you are not immune, we'll have you return in three weeks to have the same blood tests to see if you've become infectious.

If you become infectious, we will begin following you with ultrasounds to see if the growing fetus begins to show signs of infection. **Keep in mind that the fetus is usually not affected**.

One extra note: If your child was exposed to another child infected with Parvovirus B19 at school, it does not count as exposure to you!

IMPORTANT STUFF

GROUP B STREPTOCOCCUS (BETA-STREP)

Since the early 1970s, the bacteria called Group B Streptococcus (GBS) has been identified as a cause of infections in newborn babies. This bacteria is normally found in the vagina and/or lower intestine of roughly 30% of all healthy, adult women. It is not considered to be a sexually transmitted disease. Women who test positive for GBS are considered to be "colonized." Group B Streptococcus should not be confused with the streptococcus that causes strep throat. Fortunately, there is testing and a preventive treatment available that can help prevent neonatal GBS infections.

GBS AND PREGNANCY

If 1,000 women had a vaginal culture, about 30% would test positive for GBS. Because GBS usually does not cause symptoms, most women who harbor it in the vagina do not know it. Yet, it can cause serious illness in babies born to women who are colonized with the bacteria during childbirth.

Out of every 1,000 births, one to two babies will become seriously ill with GBS if the mother is not treated during labor. This illness can consist of pneumonia and/or meningitis and can unfortunately be fatal.

Risks of GBS increase when labor is premature; When there is premature rupture of membranes; When there is prolonged rupture of membranes before the baby is born; If the mother has a fever before or during labor, and in women who have a history of GBS previously. The risks may be much less if the labor is rapid.

HOW DO I KNOW IF I CARRY GBS?

We will perform a vaginal culture during your routine visit between 35 and 36 weeks. We use a small Q-tip sized swab that we place into the vagina and around the anus to obtain a culture. Sometimes, GBS can be present in small amounts on one day but not on another, which could result in a negative culture on the day we do the test. Therefore, one negative culture result does not 100% guarantee that you will be negative on the day you deliver.

However, If you do test positive, we will document the result in your electronic chart and it will be available for review when you go into labor. **Please ask us for the result during the next visit after it is done.**

WHAT TO EXPECT IF YOU TEST POSITIVE?

If you test positive for GBS, we will treat you intravenously during labor with an appropriate antibiotic. Giving antibiotics intravenously to the mother during labor can reduce by 50% the frequency of serious GBS infection in the baby after birth or during the first week of life. Treating the mother with oral antibiotics earlier in pregnancy may decrease the amount of GBS for a short time, but it will not eliminate the bacteria completely. Also, waiting to treat the mother or baby with antibiotics after birth is often too late to prevent illness, which is why IV therapy during labor is recommended.

IMPORTANT STUFF

KICK COUNTING

Fetal movement awareness (or baby kick counting) has long been known to indicate the well-being of the baby while inside the uterus. The range of normal fetal movements varies greatly between babies and pregnancies. Unfortunately, there is no exact number of baby movements that automatically indicates that the fetus is at risk for problems or may be developing a problem. **Studies have shown, however, that an unusual decrease in fetal movements may often be associated with a baby in distress or a baby somehow in jeopardy inside the uterus.** An increase in movement is NOT associated with fetal distress.

By counting your baby's movement, you can monitor the baby yourself to reassure you and us on a daily basis that all seems to be going smoothly for the baby before it is born.

Kick counting is usually easier to interpret later in pregnancy but can be done whenever the fetus has well-established movement patterns usually after 28 weeks. **We would ask that you initiate kick counting whenever you perceive that there has been a decrease in the baby's usual activity pattern**.

Here are some guidelines to help you count:

1. When counting fetal movements, try to lie on your side or just sit quietly and comfortably. Baby movements are often difficult to feel or be aware of when the mother is active, so this "test" of movement monitoring requires the mom to be in a "quiet" mode.
2. How you perceive movements will vary. They may be a "jab," a "roll," a "kick" or you may feel the baby "balling up inside." Whichever of these you feel you should count as one movement. Do not count hiccups and flutters as movements. If you are having difficulty feeling movement from "inside," try placing your hands on your abdomen.
3. Count "baby kicks" or fetal movements two to three times a day. It is best to do this after you have completed a meal. At this time, the baby is most likely to move since it responds to your digestive sounds. **The baby should move 4–5 times in the hour following your meal, or 10 times in the 2 hours after a meal**. Note: If the baby moves 4–5 times in 15 minutes after your meal, you do not have to continue counting for the whole hour. You can stop counting as soon as you have felt 4–5 movements.

IMPORTANT STUFF

KICK COUNTING CONTINUED…

4. If the baby does not move as directed above, get up, drink a big glass of cold juice, and try counting again after about 10 minutes. If the baby still has a decrease in movements, **call us at (925) 935-5356** to report your findings. **Call at the time you are testing**. We do not want you to wait. Even if this is on a weekend or at night, **WE WANT TO KNOW ABOUT IT NOW, NOT LATER**. Don't ever feel you are bothering us when you call. And please don't email us or message us about this. We may not read your written message right away. This is important.
5. Try not to routinely do kick counts at 2 am because you wake up and suddenly don't feel movement – they are best done in the mid-morning or late-evening time periods. But if you do wake up at 2 am, do the tricks listed above. If you still are concerned, don't call us, just go to Labor & Delivery.

Thank you for being aware of your baby's activity level and acting on any concerns you may have!

IMPORTANT STUFF

INDUCTION OF LABOR

Pregnant women have vastly different views on the subject of labor induction. At the beginning of the pregnancy, most women think, “I hope I don’t have to be induced.” Invariably, a larger percentage of women at the very end of pregnancy think something far different, such as, “I’m miserable. I can’t believe these yo-yos are making me stay pregnant a second longer. I would do just about anything to get myself into labor so I can get this over with.”

THE MYTH:

“LABORS THAT ARE INDUCED HURT MORE THAN NATURAL LABORS”

THE REALITY:

“LABOR HURTS, PERIOD!!!
(THANK HEAVEN FOR EPIDURALS)

If you measure the intensity of uterine contractions in a woman in spontaneous “natural” labor, the strength can be every bit as strong as can be found in labors induced with Pitocin. How do we know? We occasionally place a catheter, called an "Intra-uterine Pressure Catheter" into the uterus next to the baby which measures the strength of the contractions in millimeters of mercury so we know exactly how strong contractions are.

WHAT MAKES PITOCIN DIFFERENT?

The normal progress of labor, generally speaking, progresses slowly, with contractions first 30 minutes apart, then 25, then 20 minutes apart. Then they increase in intensity and strength and become 15, then 10, then 5, then 3 to 4 minutes apart. Nice slow warm-up, building up into the real thing.

Pitocin may make women acutely aware of strong contractions that may start every 10 minutes, then 5, then 3 to 4 minutes apart. WHAM!! Labor begins with very little warm-up. Thus, all of your friends may relate to you that the contractions hurt so much more, but in reality, the strength may be equal to those experienced by a woman who is in natural labor.

Is that good or bad? Well, it depends on your perspective. If you are admitted to labor and delivery to have your labor induced, contractions are kind of the goal. Otherwise, we would not call it labor induction. We would just call it resting comfortably in a hospital bed, waiting.

Another thought expressed by friends and family looking out for your best interests regarding induction is that, by altering the natural course of pregnancy, you may increase the risk of cesarean section. Certainly, there have historically been medical studies that have indicated that the risk of cesarean section increases if labor is induced. **BUT KEEP READING...**

This section continued on the next page↴

IMPORTANT STUFF

OUR THOUGHTS ON INDUCTIONS

We are probably in the minority when compared to the opinions of our colleagues in that we have never really had a problem with the concept of "elective induction." Obviously, induction is indicated in certain situations, including worsening hypertension, diabetes, or other medical problems complicating pregnancy. Those inductions aside, let's talk about "I'm tired of this and want to be delivered" inductions or other reasons for inductions that are more social and less medical.

Our feeling is that we really do not want to do anything to jeopardize the opportunity of you having a vaginal birth. But if I feel that an induction will be successful and lead to a vaginal birth, I have no problem with it. My only requirement is that the baby must be ready and thoroughly "cooked." The standard is about 39 weeks (one week prior to your due date). For inductions prior to this time, there must be a valid medical reason. Additionally, the cervix must be "ripe" enough so that the odds of vaginal delivery are increased. This means that the cervix must be dilated and thinned out with the baby's head low in the pelvis. This is a gestalt feeling on our part (having collectively delivered well over 10,000 kids).

Interestingly, the medical literature is finally supporting our position and that of Dr. Wells, with his 30+ years of experience. A recent analysis found in the New England Journal of Medicine 2018 August 9; 379(6);513-523, compared induction of labor at 39 weeks to expectant management (waiting for the start of spontaneous labor) in a group of low-risk first-time moms.

The study found induction at 39 weeks was associated with a decreased risk of cesarean section and also a non-statistically significant decrease in adverse perinatal outcomes. Later, in the American Journal of Obstetrics & Gynecology 2019 October; 221(4):304-310, a "meta-analysis", or review of multiple studies, was performed comparing elective induction at 39 weeks to expectant management, six studies including 66,019 women undergoing elective induction were compared to 584,390 women undergoing expectant management. **Elective induction was associated with a significantly lower incidence of cesarean section, peripartum maternal infection, neonatal respiratory morbidity, meconium aspiration syndrome in the newborn, and neonatal ICU admissions,** compared to the expectant management group.

Sometimes, we encourage women to consider induction for various reasons related simply to the position or size of the baby, and our estimation of the adequacy of a woman's pelvis. These are very nuanced considerations. But despite the good solid medical evidence just mentioned regarding early induction, we do have many patients who just want to wait "until the baby decides to come out" or "until my body tells me it's the right time" or "for my body to just do this naturally". It is very interesting for me to hear these sentiments from my patients who may trust our judgment but are exposed to a barrage of opinions from friends, doulas, and from Internet searches. Shockingly, very few patients would, for example, ask Dr. Wells "Hey doc, you've been doing this a while, what have you seen in your patients who have decided to wait until their body "kicks" into labor?"

IMPORTANT STUFF

OUR THOUGHTS ON INDUCTIONS CONTINUED...

Number one, having done this for several decades and seeing firsthand what nature can do in his work in third-world countries where there are limited resources, Dr. Wells possesses a unique perspective. In Haiti and Ethiopia, he has seen disasters befall women who really didn't have the means or opportunity for timely intervention. The women in these countries accept the often cruel outcomes of the "natural process".

But in our country, and specifically at John Muir, Dr. Wells would say that we don't commonly see true disasters from waiting until natural labor starts beyond 41 weeks. What we do see is increased rates of cesarean section deliveries and an increased need for vacuum assistance for vaginal deliveries- rates that occur twice as high as in women who deliver (induced or not) before their due date. And we see higher rates of NICU admissions as well, often from breathing difficulties related to meconium aspiration. But we digress.

SCHEDULING THE EVENT

We may offer induction at some point toward the end of your pregnancy. If you are not into it, no problem. Please don't be offended that we ask - there is a lot that goes into the scheduling, and it is more complex than making a reservation at a restaurant. If you would like to be induced, however, we need to keep in mind who will be the delivering provider (One of the doctors or one of the midwives), what days they deliver, what your starting cervical exam is, and how many children you have already delivered.

The process is probably more complicated than you would expect, as there are only so many spots for inductions on L&D and there are other doctors with patients wanting inductions as well. And we all have to play in the same sandbox. Also, the sandbox is seemingly smaller due to nursing staff shortages that are so common nowadays. That being said, our medical assistant Maria is in charge of scheduling inductions. And always, inductions are considered a reservation, but not a guarantee. The reality is that sometimes L&D is too busy to safely bring women in for elective inductions of labor. We have no control over this. In these cases, the dates or times of elective inductions may need to be altered a bit. So, FLEXIBILITY is the key here. My staff and I can only control so much. **If you have any questions regarding setting up an induction, please speak with maria, who communicates every day with the L&D schedule coordinator.**

Obviously, on the day of induction, you will have much to do getting ready: packing for the stay, arranging for childcare if you have other kids, and communicating with family. **If you happen to think about it and have the desire, feel free to bring some snacks for the nursing staff who will be caring for you until you deliver. They so appreciate when patients bring them treats to munch on during their shift.** Not mandatory, but a generous act that goes a long way for nurses that are often overworked and underappreciated.

IMPORTANT STUFF

WHAT IS INVOLVED WITH INDUCTION

When you are brought in with a "ripe cervix" for an induction, all of the procedures that are normally done during labor and delivery will be accomplished as if you were in labor already. An IV will be started and we will begin Pitocin, starting slowly and then increasing the concentration at 15-minute intervals. Your contractions will either begin quickly or more likely they may not become strong until higher doses of Pitocin have been given over a few hours (anywhere from 2-6 hours) have passed. At some point in time, usually, early in the process, we will come in and rupture the membranes, releasing the amniotic fluid from its sac. This will allow the baby's head to settle against the cervix and help with its dilation. This is an important step in the induction process, as typically very little cervical change will take place with Pitocin alone. You can have an epidural whenever you want it during your labor - the belief that epidurals slow the labor process down is completely false when you are on Pitocin. The epidural is not mandatory to get before we start Pitocin or rupture your membranes. The process leading to labor is not likely to be that fast, but rather a slow start with hopefully a quick finish.

Women are usually amazed at how smooth the induction of labor can be. Rarely will labor be longer than anticipated. Typically, if a woman begins induction at 7:30 a.m., delivery occurs sometime between 12:00 noon and 5:00 p.m. depending on what number of babies it is and how dilated the cervix is at the start of the induction. Additional factors to take into account are your expectations and whether or not you have a rigid birth plan. Left to our expertise, laborers are usually straightforward and timely.

We have delivered thousands upon thousands of babies and understand the small details and intricacies that can profoundly affect labor progress either positively or negatively. Always keep in mind that a rigid birth plan can derail an otherwise straightforward induction experience. We will abide by your plan if you insist as long as no harm will come to you or your baby, even when we know that your plan will end up resulting in a cesarean section. This last sentence may seem harsh or uncaring, but many couples are very focused on the process, and less so on the result.

If induction is indicated for medical and/or obstetrical reasons, the same type of management plan as described above will be utilized. If the cervix is not dilated sufficiently, or "favorably", a different approach is taken. **We may recommend that you come into the office the afternoon prior to the anticipated delivery day for the placement of a cervical balloon catheter that will serve to "ripen" the cervix.**

During a speculum exam, a small rubber catheter is inserted through the cervix and then inflated with sterile water. We will then ask you to go into Labor & Delivery later in the evening. Throughout the night, the catheter is then pulled back slowly through the cervix, thus dilating it to about 3.5 centimeters. Once the catheter falls out, it does not need to be replaced. Pitocin will be utilized and started at some point between 11 pm and 2 am, depending on several logistical factors. Most women may sleep (restlessly) until morning unless the contractions become intense (at which time you may have an epidural and get a good night's rest) The membranes may then be ruptured when we arrive on Labor & Delivery in the morning and the rest of the induction should proceed as described above.

IMPORTANT STUFF

HOW SUCCESSFUL ARE THE INDUCTIONS?

Each year the hospital gives us our statistics for how we performed with patients; i.e., how many patients we delivered and by which route (vaginally or by cesarean section), how many inductions we performed, how successful the inductions were in achieving vaginal deliveries, etc. This is done to compare our performance to that of our peers and for quality purposes. The year 2021 statistics are slightly different from those of previous editions of this handbook, but all in all, each year's numbers tend to be very similar.

In the year 2021:

a. We attended 478 births
b. Collectively, we induced the labors of 157 women for both medical and elective/social reasons (this means we induced 32.8% of the women; the department average was around 28%).
c. Of those women whose labors were induced, 14 (8.7%) required a cesarean section. Interestingly, the cesarean rate was higher (13.7%) if labor was spontaneous.

Certainly, if you have any questions regarding our views on labor induction or the methods we use for induction, please do not hesitate to ask!

VAGINAL BIRTH AFTER CESAREAN (VBAC)

If you have had a cesarean section in a previous pregnancy, this topic will undoubtedly come up during your prenatal care. We're sure you'll catch an earful from friends and family about the risks of the endeavor. Let's review some information about VBAC.

First off, our approach to obstetric care and medical care, in general, is that we'll never recommend something unless we'd recommend it for our wives, sisters, or mothers. That being said, Dr. Wells' first daughter was born out of necessity by cesarean section. His second daughter was born by the vaginal approach (VBAC). What a wonderful experience both births were! His wife would have to say (and would agree) that the recovery from the second birth was far superior compared to that of the first.

Knowing the risks involved with vaginal birth after a cesarean, he felt comfortable with this approach for the birth of his younger daughter. We believe that many women are excellent candidates for the VBAC approach, but we do not think it is safe for everyone. Collectively, our practice does not hold to hard and fast rules, as they often don't apply to everyone. Rather, we like to assess each pregnant woman individually to determine whether or not she would be a good candidate and that the VBAC route would be safe. Just because a woman wants to have a VBAC doesn't mean it will happen in any circumstance. For example, if she had a cesarean last pregnancy because after pushing for over four hours she was unable to deliver a 5-pound baby because her pelvic bones were too narrow, she shouldn't expect her pelvic bones to have changed in her current pregnancy.

Interestingly, we are hearing more press regarding the risks and complications associated with VBAC. Yet the risks reported in a large study 20 years ago are the same as what is being reported more recently. In addition, hospitals are more commonly requiring that patients fill out a special consent form that is designed to confirm that the patient has made an informed decision. We have these forms in our office if you are seeking to deliver vaginally after having had a cesarean.

IMPORTANT STUFF

WHAT ARE THE RISKS OF VBAC?

The main risk quoted by articles that usually steers women away from the VBAC is the risk of uterine rupture. During labor, the most common occurrence, the line of uterine incision from a prior cesarean section can separate to varying degrees. This can also happen prior to labor or even after a vaginal delivery has been accomplished.

If it separates minimally, usually there is no consequence. If it separates completely, maternal hemorrhage may occur, and the fetus may be in severe distress and require immediate delivery. If interventional procedures (cesarean section) are not readily available, the baby may die or be born with severe physical and mental handicaps. Additionally, if the bleeding that occurs is uncontrollable, a hysterectomy may be required. That is the worst-case scenario in a nutshell.

The question remains, "Who in their right mind would want to attempt something that carries with it such horrible risks?" The answer is tricky, and it depends on the comfort level of the individual. **How often does uterine rupture occur in women who attempt the VBAC? Not 20%, not 10%, not even 1%. Uterine rupture occurs in 0.8% of women who attempt the delivery.** Of these, only a fraction require hysterectomy or have the complications listed above. In Dr. Wells' and Dr. Thompson's lifetime, they've had to operate emergently to rescue babies that have passed through ruptured uteri into the abdominal cavity. They've also had to perform hysterectomies to save women's lives due to a ruptured uterus.

However, they've performed more hysterectomies in women who delivered vaginally, having never had a cesarean section or during elective cesarean sections for uncontrollable hemorrhage than for having complications of VBAC. The bottom line is there are risks to mom and baby regardless of the route of delivery. Thankfully, the risks are small, and unfortunate occurrences are rare. Nevertheless, we are comfortable with the prospect of VBAC, and last year attended more VBAC deliveries than any other practice at John Muir. We carefully selected women we thought would make good VBAC candidates and didn't "push the ticket." As a result, there was 100% success in VBAC attempts. Meaning, all the women who attempted a VBAC delivery did so with no adverse events to the mom or baby. Dr. Wells attributes that to God's grace and good patient selection. Our overall cesarean section rate is low, and we don't feel a need to make it lower by talking women into VBAC deliveries.

If you've had a cesarean section and would like to attempt a VBAC delivery, let's talk about it. We advise waiting until 36 weeks before having serious talks about the delivery route. To do so before that time is usually pointless, as so many things can occur that would make the discussion all for naught. At 36 weeks, we can usually judge the odds of success versus failure. If you are a good candidate and want to give it a try, we will be behind you 100%. Oftentimes we would consider induced labor at 39 weeks if the cervix is "ripe." Medical studies don't advocate "chemical cervical ripening agents" which are sometimes used to soften the cervix prior to the use of Pitocin. We agree with these studies and do not use these agents. We do cautiously use Pitocin, an agent nearly identical to the body's own hormone Oxytocin, which is produced in the brain and brings on contractions.

IMPORTANT STUFF

THE RISKS OF VBAC CONTINUED...

We also advocate using an intrauterine pressure catheter, which allows us to assess exactly how strong contractions are and is an instrument that may indicate whether a uterine rupture may be in progress. Additionally, we love epidurals specifically in women attempting VBACs, which allow a woman to relax during all of the normal movements of the fetus through the birth canal. We believe this regimen has allowed for the large number of successful VBACs that we've been a part of.

The other aspect that offers significant reassurance is the facility at John Muir Medical Center. The fact that John Muir offers the presence of an "IN-HOUSE" obstetrician, anesthesiologist, and pediatrician, available from within the hospital nearly instantly 24 hours a day makes me feel more comfortable. Should the need arise in that rare circumstance, We know we have the appropriate personnel available to help us take care of you and your baby. **If you are interested in attempting VBAC, please ask us to go over hospital consent forms with you prior to the onset of labor. They are mandatory. The forms basically include all of the information in this section but are required by the hospital.**

IMPORTANT STUFF

TWINS

Twin pregnancies are seen now with ever-increasing frequency, largely a result of successful in-vitro fertilization. Even so, "spontaneous twins" are still seen and are always fun for us to diagnose. The faces of shocked disbelief on the faces of couples are often nervous about one addition to the family, let alone two. After the realization of the anticipated exponential growth of the family has sunk in, we are faced with the realities of the next eight months of pregnancy. So here goes…

The thought of having twins is considerably "cuter" than reality. We treat twin pregnancies differently than "singleton," simply because they may represent a more risky venture. As a result, we adopt a different approach to the management of twin pregnancies.

Regarding the frequency of visits, expect to see us more frequently. Additionally, you will be having ultrasounds on a monthly basis until delivery, to ensure adequate growth of both babies. Our goal would be to stagger the visits between us and your ultrasound visits with Diablo Valley Perinatal Associates. So beginning at 20 weeks, when you'll have your first detailed ultrasound, you'll see the perinatologists, then 2 weeks later you'll see us, then 2 weeks later you'll see the perinatologists, etc. Later, you'll see us every 2 weeks or every week, depending on how things are going with you and the babies.

We would encourage you to consider signing up for online e-classes for multiples. Check out **www.JohnMuirHealth.com/classes** for more information.

So other than the frequency of visits and the need for multiple ultrasounds, what are the other factors of prenatal care that are different?

If you are a type A person (often the case with people having twins), we would encourage you to change your way of thinking. The course of pregnancy with twins can be very unpredictable, and it is best to allow a great deal of flexibility into your schedule. Let's say this again so you and your partner can be clear on this most important principle: **The course of pregnancy with twins can be very unpredictable, and it is best to allow a great deal of flexibility into your schedule.** Many women ignore this advice and think that complications are likely to happen to "other women" and are quite shocked when they themselves are placed on bed rest for weeks at a time. We have found that women who alter their lifestyle to be more "low stress" early in pregnancy tend to go for a much longer time in their pregnancy problem free.

Regarding activity and exercise early in pregnancy, expect to feel normal and for things to go relatively smoothly. For the most part, women can exercise at a near-normal pace until 24 to 26 weeks. After 26 weeks, you may notice things changing. You may feel fatigued sooner than you expect, and you may feel winded easily. These are normal symptoms in a twin pregnancy. Since twins may make you more uncomfortable than usual during pregnancy, resting for periods during the day will help give you energy. **Avoid standing for long periods of time and lifting heavy objects.** Your back will be much more vulnerable to injury compared to if you were carrying just one baby. Toning exercises will be fine as long as you do not strain too much. **The best exercises with twins are swimming (the best exercise), walking, and riding a stationary bike.**

IMPORTANT STUFF

Regarding work, plan on being able to carry on normally until 30 weeks. After that, we'll be looking closely at factors that may preclude you are continuing in your usual fashion. Ask your employer well in advance about alterations in your schedule, and whether telecommuting is possible. **Travel by both car and plane should be fine for up to 30 weeks** as long as you have not had any problems up to this time.

Let's review the most common problems with twin pregnancies that we need to treat:

1. **Preterm labor** is one of the most common complications we see with a twin pregnancy. This can result in preterm birth; **about half of all twins are born pre-term**. This oftentimes results in prolonged hospital stays in a neonatal nursery.
If we discover that you may be entering into preterm labor, we will markedly reduce your activities and even consider hospitalization until delivery. **The use of medications to stop contractions at some point during pregnancy is almost universal**. Terbutaline or Nifedipine are the medications we use most commonly. They work well but may have some side effects. Most women, however, get used to them and can tolerate the medication without any problem.

To help diagnose preterm contractions or preterm labor that needs to be treated, we may check your cervix, send you to Labor and Delivery at John Muir Medical Center to monitor the activity of your uterus, or we may perform a vaginal swab to test for the presence of Fetal Fibronectin. This test can predict the likelihood of your delivering early with great accuracy.

If the test returns negative, then there is a 99% chance that you will not deliver in the next two weeks. If it returns positive, there is a 16% chance that you will deliver in the next week or two. Said another way, if the test returns positive, there is an 84% chance that you will not deliver in the next week or two. If your cervix is dilated, or if you are having frequent strong contractions, or if you test positive for the fetal fibronectin test, WE WILL BE VERY AGGRESSIVE TO GET YOUR UTERINE ACTIVITY TO STOP. This may include more medication, conversion to markedly reduced activity or complete bedrest, or hospitalization.

2. **Premature rupture of membranes**; another risk factor with twin pregnancies. This is where the membranes that hold the amniotic fluid in the uterus rupture early in the pregnancy prior to the start of labor. Sometimes the membranes may rupture in a very small area, resulting in a small leak. Regardless, this is called premature rupture of membranes, and moms who are in this situation are at high risk for preterm labor, preterm delivery, and infection. With premature rupture of membranes prior to the onset of labor, mothers are hospitalized and treated with antibiotic therapy, steroids when necessary to help speed the lung maturation process within the babies, and possibly medications to prevent the onset of labor. Each situation is different, although we are often able to continue the pregnancy for long periods of time, allowing the babies to grow, substantially increasing their odds of survival and good health.

IMPORTANT STUFF

3. **High blood pressure** that occurs for the first time in pregnancy is called pregnancy-induced hypertension. Women with twins are at higher risk for developing hypertension during pregnancy. Therefore, it is important that blood pressure be controlled during pregnancy. The way we can do so is oftentimes simple, and strict **bedrest** may be sufficient. This would obviously require a woman to stop working for the remainder of the pregnancy. **Warning signs of pregnancy-induced hypertension may be elevated blood pressure AND severe or constant headaches, very sudden swelling, especially in the face, blurred vision, pain in the right upper part of the abdomen, or sudden weight gain of more than 1 pound a day**.

4. **Growth problems**; twins are more likely to experience. Intrauterine growth restriction (IUGR) is a term for the slow growth of babies during pregnancy. This is why we utilize ultrasound more frequently with twin pregnancies. When we identify these problems early, bedrest is usually recommended, and the babies are more closely monitored and may need to be delivered early. Sometimes twins grow at different rates and may become "discordant" if one is much smaller than the other. This may be due to one twin getting more blood and having more amniotic fluid than the other, poor functioning of the placenta, or birth defects.

The smaller baby is more likely to have problems during pregnancy and after birth. Early delivery may be needed if either baby shows signs of having problems before term. If there is any evidence of discordance, then fetal surveillance with twice-weekly monitoring will be required. This is done at Diablo Valley Perinatology's office. We will assist you in arrangements should the need arise.

5. **Delivery of twins may require cesarean birth**; however, most are delivered vaginally. The only requirement we have to attempt a vaginal birth is that the first twin is head down in the birth canal. If the second twin is head down, it makes things very straightforward. If the second baby is in a breech position, it may be safely delivered by breech extraction shortly after the delivery of the first twin.

However, if the first baby is in the breech position in the birth canal, then a cesarean section is required. Bummer. But, let's face it, the most important thing is a healthy mom and healthy babies.

IMPORTANT STUFF

PRETERM LABOR/ CONTRACTIONS

Determining the difference between "preterm (also called premature) labor" and "preterm contractions" is often very challenging, both for the pregnant woman and for the obstetrician. **Preterm labor can be loosely defined as contractions prior to 36 completed weeks that are regular and of sufficient strength to cause a change in the cervix.**

Preterm labor can and sometimes does lead to preterm birth. Preterm contractions may be described as painless to painful. They don't, however, produce a change in the cervix. In this section, we won't try to determine what is real labor at term and what is not. We'll be concerned with what happens prior to 36 completed weeks.

It is entirely normal to experience uterine contractions periodically during your pregnancy. Expect to have up to 30 on a daily basis. If you bend over then stand up straight, pick something up, roll over in bed and stand up, exercise, or move too quickly, you may subsequently experience one or more contractions. They should go away soon after you stop whatever activity precipitated them. That is what makes the difference between something we should be concerned about and a physiologic event that is to be expected. The bottom line is that the contractions should not be persistent.

If the contractions are persistent AND increasing in intensity AND increasing in duration, or if you are unsure but are concerned about them, or if you have suddenly noticed a clear or blood-tinged mucous-like vaginal discharge, please call us so we can sort it out together. **Before you call, however, try resting quietly for an hour and drinking lots of fluids to see if that is enough to stop the contractions.** If you call us and it seems like you may be having preterm or premature labor as opposed to benign preterm contractions, we may ask that you come into the office or even go directly to labor and delivery at John Muir Medical Center for further evaluation.

FETAL FIBRONECTIN

This test was developed years ago and has helped us differentiate between women whose contractions are worrisome versus those who may not warrant aggressive therapy. A vaginal swab can be performed that detects the presence of fibronectin, a protein released when the placental membranes are disturbed by subtle changes in the cervix secondary to uterine activity. If the fetal fibronectin is negative, that's good. It means that there is a greater than 95% chance that a woman will not deliver in the following 2 weeks (the test only predicts a 2-week time frame). If there is still a concern at the end of a 2-week period, the test may be repeated. If the test returns positive, the risk of delivery in the near future is approximately 16%. Positive results allow us to formulate a more aggressive plan to manage the contractions and thus prevent premature delivery.

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IMPORTANT STUFF

If the test is negative, we can be reasonably assured that you will not deliver, and so we may follow a slightly more conservative approach to managing your contractions. **The test is invalid and cannot be performed if you have had a cervical exam in the last 24 hours, if you have had intercourse in the last 24 hours, or if you are bleeding at all**. Otherwise, we can perform this test and have results in a matter of several hours.

We have been using this test more and more frequently in practice and have found it to be very helpful. We do use it in the scope of the whole picture. The fetal fibronectin test represents but one piece of the contraction puzzle. So even if the results are negative, sometimes we treat the contractions more aggressively anyway. If you have been diagnosed with preterm labor, keep in mind that we are largely successful with helping women make it to term and deliver "term" babies. To improve your chances of delivering a term infant, we ask for your cooperation.

Things we may recommend if we are concerned that you may deliver early include:

1. A modified work schedule or stopping work altogether.
2. Reduced activity (Exercise cessation) or even bedrest at home.
3. An oral medication, Nifedipine or more rarely Terbutaline, which serves to relax the uterus (continue reading for instructions).
4. More frequent office visits to monitor any change in your cervix.
5. Prolonged hospitalization with stronger tocolytic (contraction-stopping) medications such as magnesium sulfate (yuk!).

A key principle regarding preterm labor is that rest seems to be the best medicine. This is usually difficult to accomplish in today's hectic environment. Most women don't have time for the inconvenience of preterm labor. Having to arrange care for older siblings makes preterm labor even more challenging. Still, preterm labor control is much better for everyone involved than preterm birth.

If we find rest is unsuccessful and you're in need of medication to stop the contractions, we may prescribe Nifedipine.

This has relatively few side effects, but they may include dizziness. We start with a 10mg tablet every 6 hours but may increase to 20mg every 6 hours or even to every 4 hours.

Alternatively, we may prescribe Terbutaline. Its side effects are roughly the same as drinking too many espresso coffees: increased heart rate and jitteriness. We usually start with a 5mg tablet every 4 hours or every 3 hours if needed. Check your pulse at the end of the 3- or 4-hour mark. If your heart rate is greater than 120 beats per minute, wait an extra 30 minutes and recheck. If it is less, go ahead and take another dose.

The goal is to reduce your contraction frequency to less than 4 per hour. Sometimes you only need to take the medication while awake, whereas other times you need to take it around the clock. We'll let you know how to take it and for how long.

If you are concerned that what you are experiencing is preterm labor and not just preterm contractions, please let us know and we'll help sort it out as best we can.

IMPORTANT STUFF

HOME ON BEDREST

If you are reading this section you are undoubtedly thinking one of two things:

"I HOPE WITH ALL THAT I AM THAT I NEVER HAVE TO DO THIS" **OR**
"I CAN'T BELIEVE THEY'RE RECOMMENDING THIS FOR ME, I HAVE SO MANY IMPORTANT THINGS TO DO!"

We understand fully how much a recommendation of bedrest will interfere with your life. **We recommend it only when we think that you and your unborn baby will derive significant benefits from doing so**. If we didn't think that bedrest was important for you in your particular situation, then we wouldn't even consider making the recommendation. If we sound redundant, know that we understand, but must still make appropriate medical recommendations for the benefit of you and your baby.

Bedrest is recommended for some of the following reasons: Preterm labor, premature contractions when there has been little change in the cervix, twins with lots of uterine irritability, severe hypertension, and placenta previa with recent or recurrent bleeding. Other reasons are more obscure where the benefit is less defined.

Once we recommend bedrest, most patients begin what we call:

"NEGOTIATION FOR FREEDOM" AND INCLUDES SUCH PHRASES AS...

"CAN I DO THIS? WHAT ABOUT THAT?" **AND**
"IF I'M NOT ALLOWED TO COOK DINNER, WHAT ABOUT LUNCH" **OR**
"BUT WHAT ABOUT MY 18-MONTH-OLD? WHO WILL TAKE HIM TO DAYCARE?" **AND**
"WE DON'T HAVE FAMILY OR FRIENDS CLOSE BY, AND MY HUSBAND WORKS (TOO MUCH)" **OR**
"DOES THIS MEAN I CAN'T WORK OUT 6 DAYS A WEEK FOR MY USUAL THREE HOURS?" **AND**
"THERE'S NO WAY I CAN GO WITHOUT DRIVING TO STARBUCKS AT LEAST ONCE, TWICE A DAY!"

Bedrest section continued on the next page↴

IMPORTANT STUFF

In order to help you understand what we mean by bedrest, we've tried to stratify the term into three forms: Complete (Strict) Bedrest, Modified Bedrest, and Resort Activity.

In an effort to cut down on bartering time, we've come up with a basic schedule for both complete and modified bedrest.

STRICT BEDREST

7:00	Wake up, bathroom. Breakfast (Get from kitchen, eat in bed)
7:15	Back to bed.
9:30	Shower (if you want), bathroom, Snack from kitchen, eat in bed.
9:45	Back to bed.
12:00	Lunch (remember ...eat in bed!)
12:15	Back to bed.
2:30	Bathroom, snack.
2:45	Back to bed.
6:00	Dinner, bathroom.
6:30	Back to bed.
7:30	Snack, kiss the kids goodnight, etc.
7:45	Back to bed.
10:00	Bathroom, snack, go to bed for the night.

MODIFIED BEDREST

7:00	Wake up, bathroom, shower breakfast (fix and eat in the kitchen)
9:00	Back to bed
11:00	Pick up clothes/light cleaning (No vacuuming, scrubbing, mopping, etc.)
12:00	Lunch (Fix and eat in the Kitchen)
12:45	Back to bed
2:30	Bathroom, snack
2:45	Back to bed
5:30	Free time to tinker around the house (remember, no lifting heavy things at all)
6:00	Dinner at the dining table, bathroom
6:45	Back to bed
8:45	Free time with the family mellow, mellow, mellow...
10:00	Bathroom, snack, go to bed for the night

RESORT ACTIVITY

7:00	Wake up, Bathroom, Shower, Breakfast (Fix and eat in the kitchen or outside)
9 - 5:30	Lounge around today and watch people do things for you. Maybe read a book or have someone drive you to the store and shop for you. Sort through old pictures or begin a new but easy project. Get your nails done at a relaxing salon; A massage would be nice; No stress, no busyness, just calm, and stay off the internet unless it is for shopping.
6:00	Dinner at the dining table, no dishes for you to clean.
8:45	Mellow free time with the family then off to bed.

IMPORTANT STUFF

BREECH PRESENTATION AND WHAT TO DO ABOUT IT

As you approach the end of your pregnancy, we will be interested in confirming the position of your baby. This can be done by digital exam when we begin checking your cervix at 36 weeks, or by ultrasound if we cannot determine the presentation by exam.

As it turns out, there is about a 4-6% chance your baby may be in an atypical position at term. For whatever reason, babies prefer the head down or "vertex" position. Although we do breech vaginal deliveries in women who have delivered vaginally previously and are deemed to be excellent candidates, we typically offer the opportunity to turn the baby into a vertex position by manually manipulating the baby through the abdominal wall. This procedure is called the "External Cephalic Version". This procedure has been documented historically 2000 years ago but has only become more popular in the last 30 years.

It is a safe procedure when performed in the hospital setting with a complication rate of 1% (usually when undue force is applied causing rupture of membranes or other problems). **Success rates of 54- 83% have been reported in the medical literature, and Dr. Wells' personal success rates are about 90%.** The reason his rates are high is that he individualizes and only attempts ECV on women who are deemed to be appropriate candidates. The goal of turning the baby into a vertex position is to increase the chances of a vaginal delivery when labor ensues.

Good candidates are those women who have been pregnant and delivered before, or any woman with adequate amniotic fluid, and an active baby not wedged into the pelvis. Things that can make the procedure less successful is the delayed diagnosis (it happens), obesity, having the fetal breech deep in the pelvis so that it cannot be displaced, or the fetal head at the top of the uterus sort of buried in the placenta like a pillow.

If you are diagnosed with a baby in the breech position at 36 weeks (keep in mind we don't care if the baby is breech before then, because regardless of the position at 35 weeks or anytime before that, the chances of the baby being breech at 36 weeks are still 4-6%. They move around a lot in their big swimming pool). First and foremost, don't panic, and don't look for horror stories on the Internet! You will find them, but internet stories don't apply to you.

We will discuss the option of ECV with you. If you decline, then we will wait until 39 weeks and if the baby is still breech, we will do a cesarean unless you are a rock-solid candidate for breech vaginal delivery. **If you are a good candidate for an external cephalic version, we will schedule it to be done ASAP. Waiting decreases, the chance of success.**

This section continued on the next page↴

IMPORTANT STUFF

BREECH PRESENTATION CONTINUED...

We will have you report to Labor & Delivery at the appointed time. After monitoring the baby, we will give you a shot of Terbutaline, a medication that relaxes the uterus (makes you feel like you've just downed a triple shot of espresso). Once the uterus is relaxed, we will lay you completely flat and put ultrasound gel on your belly and we will gently but very firmly try to manipulate your baby to roll forward (sometimes backward) to obtain a vertex position.

It sounds brutal but **most women who are able to relax tolerate the event very well. Usually, the attempt takes no more than a minute,** although rarely can take up to 3-4 minutes.

After the procedure, either with or without success, we will monitor your baby for 45 minutes to an hour, and let you go home to enjoy your usual activities. We will then follow up at your next scheduled appointment, at which time we will verify that your baby has stayed in the correct position. We can count on one collective hand how many women's babies in our career have flipped back to breech requiring a repeat procedure.

If it doesn't work and you end up requiring a cesarean section, don't worry! You will still end up with a positive birth experience and life will still be good! You have no control over this one.

GENETIC TESTING OPTIONS

THE NEW STATE TESTING PATHWAY

One of the most basic concerns a woman will have during her pregnancy is regarding the health and "normalcy" of her baby. Although no single test during pregnancy will reassure a mother more than "counting fingers and toes" after delivery, we now have the ability to identify pregnancies at risk for genetic and structural abnormalities.

This part used to be so easy—just wait until the end to see what you get. Now, however, there are more than a few tests available for the expectant parent. The difficulty lies in deciding which to do based on risk factors and one's "need to know." There is no right or wrong choice here. **We are able to offer the tests, but YOU AND YOUR PARTNER must choose which is best for you**. Keep in mind, that we will respect any informed decision you make regarding which test you decide to do, or not do.

In this section, we will mention the usual tests that are offered/performed for screening. If in fact, you do have more in-depth questions about these tests or other novel screening tests, we would be happy to refer you to a genetic counselor. We do not attempt to counsel because we are not trained or certified to do so.

NON-INVASIVE PRENATAL TEST (NIPT)

Effective September 2022, cell-free DNA (cfDNA or more commonly NIPT – pronounced like the acronym N-I-P-T, not nipt as in "I nipped it in the bud") became the primary screening technology for detecting trisomy 21, trisomy 18, and trisomy 13; 3 chromosomal abnormalities that are some of the most common, beginning at 10 weeks gestation.

Couples may also be able to find out the sex of their baby if they desire. Additionally, the state offers maternal serum alpha-fetoprotein (MSAFP) screening for neural tube defects (think spina bifida, anencephaly, etc.) in the second trimester.

The State migrated away from the First Trimester Full Integrated Screening Test (which included the Nuchal Translucency and serum screening) in favor of the more simplified and accurate cfDNA (NIPT) as the primary genetic screening test for all pregnant women for several reasons:

- NIPT provides higher sensitivity and lower false-positive rates than the older nuchal translucency and serum screening, resulting in fewer screen-positive cases referred for more invasive testing.
- The gestational age window will allow for screening as early as 10 weeks.
- Fetal sex can be determined if desired by the parents (allowing for a gender reveal party to be done earlier in the pregnancy.

GENETIC TESTING OPTIONS

THE NEW STATE TESTING PATHWAY

HOW ACCURATE IS THE NIPT?

The NIPT is the most sensitive of the genetic screening option (meaning most likely to be positive when there is in fact a chromosomal abnormality). These results are most accurate for trisomy 21 (Down Syndrome) and least accurate for sex chromosomes. If the screen is positive, the State will reimburse for genetic counseling and amniocentesis. During your meeting with a genetic counselor, questions will be answered, and you can decide whether or not to pursue further testing. If you decide to proceed, an ultrasound will be performed to look for structural abnormalities. In addition, an amniocentesis will be performed to determine the chromosomal makeup of your baby (i.e., normal or abnormal chromosomes). Keep in mind that there is less than a 1-in-1000 chance of miscarriage related to the amniocentesis procedure.

CHROMOSOMAL ABNORMALITY	DETECTION RATE	FALSE POSITIVE RATE
Trisomy 21	**99.5%**	**0.05%**
Trisomy 18	**97.7%**	**0.04%**
Trisomy 13	**96.1%**	**0.06%**
Sex Chromosome Abnormalities	**90 - 93%**	**0.14-0.23%**

RESULTS

NIPT results are reported as “low risk” or “high risk.” A low-risk result is reassuring that your baby likely does not have an abnormality in the 13th, 18th, 21st, or sex chromosomes. It’s important to remember that the NIPT is just a screening test and a low-risk result is not a guarantee that your baby does not have a chromosomal abnormality. Similarly, a high-risk result does not mean the baby certainly has a chromosomal abnormality. If you receive a high-risk result, you would be referred back to the genetic counselors and be offered additional diagnostic testing (reference CVS/amnio section). A small proportion (~1-5%) of NIPT tests are not able to provide a result. This is most commonly due to not having enough fetal DNA in the sample to be able to accurately run the test, either because the testing was done too early, issues with the way the sample was run, or certain maternal or pregnancy characteristics.

The usual reason is the test is done too early, so don’t do it before 10 weeks! The lack of a result is not the same as an abnormal result. If your testing does not produce a result, you can choose whether or not to repeat the test.

COST

The cost of genetic testing is quirky and may cost nothing to you (your insurance will pick up the tab) or you may be responsible for a percentage of the test, based on your deductible, co-insurance, and other factors. The company we use for the NIPT is Natera. They state that their max out-of-pocket for the NIPT is $243**. If you have any questions about billing or insurance coverage for the NIPT test, please call our Natera Representative, Ashour Adam (209) 499-9428.**

GENETIC TESTING OPTIONS

THE NEW STATE TESTING PATHWAY

NIPT MYTHS, MISUNDERSTANDINGS, AND MISCONCEPTIONS

THE NIPT IS A BETTER TEST THAN THE NUCHAL TRANSLUCENCY

The NIPT is not inherently better, it's just a different type of test. **NIPT looks directly at fetal DNA, whereas the Nuchal Translucency offers the benefit of looking at the baby's anatomy and has the potential to detect structural defects that may or may not be related to chromosomal abnormalities** of the 4 sets of chromosomes examined by the NIPT (cystic hygroma, omphalocele, gastroschisis, neural tube defects).

I'VE READ THE TEST CAN BE DONE AS EARLY AS NINE WEEKS AND WANT TO HAVE IT DONE AS SOON AS POSSIBLE

Buyer beware! While diagnostic companies often advertise the ability of their tests to be done as early as 9 weeks, the likelihood of having a test with "no result" is much higher when it is done before 10 weeks due to a lower fetal fraction of DNA mixed with mom's at this time during pregnancy. Tests performed later in pregnancy (after 10 weeks) are less likely to report no result and less likely to need to be repeated, saving you stress and money.

THE NIPT IS JUST AS ACCURATE FOR TWINS

NIPT screening in twin pregnancy is tricky, at best. Testing in twin pregnancies is more likely to result in "no result," even if repeated later in pregnancy. High-risk results are also more difficult to interpret in that it's not possible to determine if the result applies to one or both babies.

FOR THE MORE MATURE PREGNANT PATIENT

If you are 35 years old or will be by the time your baby is due, you have additional options. Although we will provide you with a kit for the NIPT test, the state of California will allow you to bypass all of the aforementioned screening tests and proceed directly to the **GOLD STANDARD tests**, Amniocentesis, or Chorionic Villus Sampling (CVS). If you wish to have one of these tests, please call the office of our Perinatology colleagues at **Diablo Valley Perinatal Associates** for an appointment.

At this visit, a genetic counselor will review your particular family and personal history and explain your choices and answer any questions you may have. Your choices will be to proceed directly with Chorionic Villus Sampling at 10–14 weeks (risk of miscarriage less than 1:350) or Amniocentesis – Standard and most commonly done at 15–20 weeks (risk of miscarriage less than 1:1000).

The Chorionic Villus Sampling (CVS) procedure involves the removal (either through your vagina and cervix or through the abdomen) of placental cells that contain the same chromosomal makeup as your baby. **The results of this test come from diablo valley perinatal associates.**

GENETIC TESTING OPTIONS

THE NEW STATE TESTING PATHWAY

FOR THE MORE MATURE PREGNANT PATIENT CONTINUED…

The Amniocentesis is a procedure that uses ultrasound to guide a needle into the uterus to withdraw amniotic fluid, which will be used to determine the chromosomal makeup of your baby. Complications with this technique are the rarest of the invasive tests but can range from cramping and bleeding to leakage of amniotic fluid, infection, and subsequent miscarriage (again, risk is less than 1:1000). Results of this test come from diablo valley perinatal associates.

Alternatively, you may choose to have the NIPT test and proceed with diagnostic tests only if that test is abnormal. In summary, your choices for genetic testing include one of the following; keep in mind that everyone will have a 20-week anatomy ultrasound:

1. No genetic testing, AND a standard/thorough 20-week ultrasound
(OR)
2. NIPT (cost variably covered by insurance) WITHOUT the AFP test (Second Trimester blood test), AND a Standard/thorough 20-week ultrasound
(OR)
3. NIPT test (cost covered by insurance) AND the AFP test, AND a Standard/thorough 20-week ultrasound. **This is California State's recommended screening option.**
(OR)
4. The Expanded AFP test (cost by the state of California) AND a standard/thorough 20-week ultrasound (usually done if the NIPT test is missed or declined)
(OR)
5. For women 35 years or older by the time they will deliver, or anyone who's curiosity is killing them and they want all of the information they can possibly get their hands on, Genetic Counseling AND NIPT AND the Amniocentesis or Chorionic Villus Sampling. We encourage all women in this category to have genetic counseling, even if they intend to pass on the invasive testing and opt instead to have any of the other tests listed above.

****Women in this group may also elect to have the NIPT test because it can be done so early. If the results are abnormal, then they can proceed directly to the CVS test for an early definitive diagnosis. If it is normal, and they still want an Amniocentesis because of its accuracy and relative safety, they may have it done at the usual time (or they may choose to do no further testing). We think that this approach makes the most sense for women who will be 35 at the time of delivery.****

GENETIC TESTING OPTIONS

THE NEW STATE TESTING PATHWAY

HERE'S AN IDEA OF THE RISKS BASED ON AGE THAT WE'RE TALKING ABOUT

MOTHER'S AGE	RISK OF DOWN SYNDROME	RISK OF ANY CHROMOSOMAL DISORDER	MOTHER'S AGE	RISK OF DOWN SYNDROME	RISK OF ANY CHROMOSOMAL DISORDER
20	1:1177	1:526	36	1:236	1:104
25	1:1081	1:426	37	1:186	1:82
30	1:700	1:385	38	1:146	1:64
31	1:613	1:313	39	1:112	1:50
32	1:526	1:252	40	1:86	1:39
33	1:442	1:216	41	1:65	1:30
34	1:365	1:172	42	1:50	1:24
35	1:296	1:134	43	1:38	1:18

IMPORTANT FINAL CONSIDERATIONS

Please realize the information regarding genetic testing in this handbook is not 100% comprehensive. We are not a genetic counseling office or trained in the field of genetics, but we want what is best for our patients. The perinatologists at DVP are professionals and do this for a living. We don't look at genetic testing with a cavalier attitude and we take testing algorithms dead seriously. Shortcuts are not in your best interest. As an example, I have had several patients over the last few years who have delivered babies with unique genetic abnormalities come back and ask "Dr. Wells, why wasn't this condition diagnosed during the pregnancy? We did the NIPT!" Unfortunately, the NIPT looks at ONLY 3 chromosomes, and the sex chromosome (identifies gender). It looks at nothing else. It is not even close to being a perfectly comprehensive test. They simply did not understand the limitations of the tests they had taken.

On the horizon it may be that we will be able to assess complete genomic sequencing with a convenient blood test, looking not only at chromosomes but the genes located on those chromosomes. Currently, this is possible when doing an Amniocentesis or Chorionic Villus Sampling, but with some risk (aka miscarriage, see the previous page).

With this technology, however, we can identify unusual human syndromes that have to do with abnormal genes, not just abnormal chromosome structure. Currently, the technology is referred to as a "Microarray". Think of it this way: If the Amniocentesis is like looking at a small field full of trees and making sure all of the trees look normal, the microarray is like looking at all of the branches in each of the trees to make sure all of the branches (genes) are normal. The microarray can only be performed with invasive testing and not with a simple at-home blood kit, keep in mind, times are always changing.

CARRIER SCREENING FOR SPECIFIC POPULATIONS

Carrier screening is now available and is a fairly affordable test that detects significant medical illnesses that couples may be carriers for without even realizing it. Every person inherits one copy of each gene in their DNA from each parent. If a person has one abnormal and one normal copy of a gene for a medical condition, they are a carrier and can pass that condition on to their child. If a woman is a "silent" carrier for a medical condition that may run in her family (even without her knowledge) and her partner is also a silent carrier for the same condition, a certain percentage of their offspring may in fact carry the symptomatic version of that condition. (For a refresher of basic genetics, open your 7th-grade biology textbook and re-read Mendel's experiments with peas).

Depending upon the inheritance pattern of the specific disease, the odds of their child having the full-blown disease may be anywhere from 25-50%. Some couples test before they conceive, but many don't think about it until they are found to be pregnant. We offer carrier screening for all of our patients, and the option to do this was provided to you at your first prenatal visit to our office. If it wasn't, you can still do it at any time, but we would encourage you to do this very early in pregnancy. The cost may or may not be covered by insurance, but is reasonable, nonetheless. You only need to be screened once in your life for any particular gene, as they are part of your makeup, and will never change.

The American College of Obstetrics and Gynecologists recommend testing for certain conditions and recommend that certain ethnic groups consider broader testing. Listed in the following pages are some conditions that ACOG recommends to be offered to all pregnant women. If you choose to do any of these and receive a positive result, the next step would be to have your partner checked to see if they are a carrier as well. If they are also, we will refer you for further genetic counseling and evaluation by one of our perinatal colleagues.

This section continued on the next page↴

FOR SPECIFIC POPULATIONS

FRAGILE X

Fragile X syndrome (FXS) is caused by a mutation of a single gene — FMR1 — on the X chromosome and is inherited genetically, often unknowingly.

Everyone has the FMR1 gene on their X chromosome, but when a mutation occurs, it can cause intellectual disability, behavioral and learning challenges, and various physical characteristics. Although there is no cure, symptoms can be treated. Female carriers have a 50% chance of passing the mutation to each of their children, while males will pass it to all of their daughters (and none of their sons). Males are affected more than females, and with greater severity.

The prevalence of Fragile X in males is about 1 in 3,600 to 4,000, and in females about 1 in 4,000-6,000. The lifespan in children born with Fragile X is not affected as there are typically no life-threatening health concerns associated with the condition.

Males may demonstrate physical features such as a long face and large ears, flexible joints, low muscular tone, flat feet, a high-arched palate, and large testicles noted after the start of puberty.

Cognitive function may be impaired from mild to more severe intellectual disabilities, speech and language delays, and motor delays. Behavioral tendencies in males include ADHD, anxiety, autism spectrum disorders, increased aggressiveness, and sleep disorders. That being said, they are also very social and friendly, are skilled imitators, and have strong visual and long-term memory. They are especially nice and have a wonderful sense of humor.

Females tend to have presentations similar to males, but much milder. Some exhibit emotional and mental health issues, such as general and social anxiety. A small percentage have no apparent signs of the condition.

SPINAL MUSCULAR ATROPHY

Spinal Muscular Atrophy (SMA) is a group of hereditary diseases that progressively destroys motor neurons—nerve cells in the brain stem and spinal cord that control essential skeletal muscle activity such as speaking, walking, breathing, and swallowing, leading to muscle weakness and atrophy.

Motor neurons control movement in the arms, legs, chest, face, throat, and tongue. When there are disruptions in the signals between motor neurons and muscles, the muscles gradually weaken, begin wasting away and develop twitching (called fasciculations).

The most common form of SMA is caused by defects in both copies of the survival motor neuron 1 gene (SMN1) on chromosome 5q. This gene produces the survival motor neuron (SMN) protein which maintains the health and normal function of motor neurons. Individuals with SMA have insufficient levels of the SMN protein, which leads to the loss of motor neurons in the spinal cord, producing weakness and wasting of the skeletal muscles. This weakness is often more severe in the trunk and upper leg and arm muscles than in the muscles of the hands and feet.

Except in the rare cases caused by mutations in the UBA1 gene, SMA is inherited in an autosomal recessive manner, meaning that the affected individual has two mutated genes, often inheriting one from each parent. Those who carry only one mutated gene are carriers of the disease without having any symptoms. If both parents are carriers, the risk of having a child with a full-blown condition is 25%.

There is no complete cure for SMA. Treatment consists of managing the symptoms and preventing complications. The prognosis varies depending on the type of SMA. Some forms of SMA are fatal without treatment. People with SMA may appear to be stable for long periods, but improvement should not be expected without treatment.

FOR SPECIFIC POPULATIONS

CYSTIC FIBROSIS TESTING

Cystic Fibrosis is a lifelong illness that causes digestive and respiratory problems. It is usually diagnosed in the first few years of life. Some people with Cystic Fibrosis have mild symptoms and others have severe symptoms. Although this disorder **does not cause problems with intelligence or with physical appearance**, the health needs are absolutely significant. Taking medicine daily can usually treat digestive problems. To treat lung problems, most children with CF need to have physical therapy for about a half hour every day to help clear mucus from the lungs. Lung infections are very common and progressively become more difficult to treat. Many people with CF can attend school, have careers, and have fulfilling lives, but unfortunately, all will have shortened life spans. Some die in childhood, and others may live to be in their 40s; very few live beyond. **We screen our pregnant patients routinely** to see if their offspring would be at risk for developing CF.

However, it takes two individuals who are "carriers" of a particular abnormal gene to form a child with the disorder. If one is a carrier and the other is not, then they will not have a child with CF. Even if both are carriers, however, there is only a 25% chance of the offspring having CF. If you have been screened before, you never have to do it again. The results will never change.

The big question is how frequently individuals are carriers. The answer depends on their ethnic background.

- For European Caucasians and Ashkenazi Jews, the frequency of being a carrier is 1 in 29. The chance of both partners being carriers is 1 in 841.
- For Hispanic Americans, the frequency is 1 in 46; of both partners, 1 in 2,116.
- For African Americans, the frequency is 1 in 65; of both partners, 1 in 4,225.
- For Asian Americans, the frequency is 1 in 90; of both partners, 1 in 8,100.

If a relative of yours has CF or is known to be a carrier of CF, your chance of being a carrier is greater based on your family history than your ethnic background. If the tests show that you are a carrier, the next step would be to test your husband. If he tests negative, that's the end of it. No chance of your baby having CF. If he tests positive, then that means there is a 25% chance that your baby would have Cystic Fibrosis (even if you have other children who do not have CF). If both you and your husband are carriers, you may want to speak with a genetic counselor and consider testing to see if your baby is one of the 25% who have CF. This testing can be accomplished by Chorionic Villus Sampling at around the 11th week, or by Amniocentesis at around the 16th week of pregnancy.

The cost of this testing is covered by some insurance companies and not by others. You may want to check with your insurance company prior to having the test done. As it is elective, and not "medically necessary," it is unlikely that our "pre-authorizing" the test will affect your insurance company's policies of coverage. We would be happy to obtain "pre-authorization" for you, but only after you call them and they tell you it will make a difference regarding coverage, despite the fact that there is no medical necessity.

For more questions regarding CF and the testing available, call **Cystic Fibrosis Foundation at 1-800-FIGHT CF (1-800-344-4823)**

FOR SPECIFIC POPULATIONS

ASHKENAZI JEWISH CARRIER SCREENING PANEL

This specific screening panel is recommended for couples where one or both partners are of full Ashkenazi Jewish descent. The panel consists of 3 screening tests: Tay-Sachs disease, Cystic Fibrosis, and Canavan disease. **If both parents are carriers, the risk of having an affected child is 25% with each pregnancy.**

The chance of being a carrier for **Tay-Sachs** if you are of Ashkenazi Jewish descent is about 1 in 27. With no family history of this disease, the risk of having an affected child is 1 in 2900. Tay-Sachs disease is characterized by progressive mental retardation, blindness, paralysis, and eventual death in early childhood, usually by age 5.

The detection rate from a simple Tay-Sachs screening test alone is about 94%. The detection rate with the Ashkenazi Jewish Carrier Screening Panel is about 98% because it uses an enzyme analysis as well as DNA analysis.

Cystic fibrosis (CF) is one of the most common inherited diseases. The carrier incidence among Caucasians in the U.S. is about 1 in 25-30. With no family history of CF, the risk of having an affected child is about 1 in 2500. **For more information on Cystic Fibrosis, please refer to the section in this handbook**. **The detection rate for CF is 97% with this panel.**

The chance of being a carrier for **Canavan disease** if you are of full Ashkenazi Jewish descent is about 1 in 45. With no family history of this disease, the risk of having an affected child is 1 in 5200. Canavan is a neurodegenerative disease caused by the deficiency of the enzyme aspartoacyclase. Affected children are apparently normal at birth but develop macrocephaly, developmental delay, hypertonia, and eventual death at several months of age. **The detection rate for Canavan disease is 98%** with this panel.

If you and your partner are of full Ashkenazi Jewish descent and have never been tested to see if you carry the aforementioned traits (one normal gene and one abnormal gene) ask us and we'll gladly provide you with a kit for expanded carrier screening.

You may first want to call your insurance company and ask them if the test is covered. Sometimes (most of the time**) insurance companies may not cover "elective" screening blood tests, but the out-of-pocket expense, either way, would be $343 or so**.

There is little we can do to successfully convince insurance companies to change their policies regarding coverage for elective screening tests. As a result, you may have to pay out of pocket for this one.

FOR SPECIFIC POPULATIONS

SICKLE CELL ANEMIA

Sickle Cell Anemia is one of the most common inherited diseases among African Americans, with a frequency of 1 in 600. It can be found in people of other racial backgrounds, but much less commonly.

Although the hemoglobin (a red blood cell protein that helps to carry oxygen to tissues in the body) in persons with Sickle Cell Anemia functions properly most of the time, some conditions cause the protein to change the actual shape of the red blood cell. As a result, **the red blood cell takes on a sickled (crescent moon-shaped) appearance**, so it can easily be caught up and lodged in small blood vessels. This causes severe pain, especially in joints, and is called a "sickle crisis." The body works to break these cells down and replace them with new ones, causing anemia.

Sickle Cell Anemia is a genetically inherited disease, and the genes that cause the illness may be passed from generation to generation. To fully manifest the condition, a person needs to have two abnormal genes. Most genes come in pairs. A carrier of Sickle Cell Anemia has one normal gene and one abnormal gene. A carrier does not manifest symptoms of the disease. A carrier is also said to have the "Sickle Cell Trait**."** If one "carrier" decides to have a child with another "carrier," there is a one in four chance of having a child with true Sickle Cell Anemia.

We offer a simple blood test, called hemoglobin electrophoresis, which can determine which people are carriers for Sickle Cell Anemia. This is more accurate than other screening tests for the trait or disease.

If there is no one in a family with Sickle Cell Anemia, then the chance of being a carrier is about **1 in 10 for African Americans, 1 in 190 for Hispanic Americans, and 1 in 650 for Caucasian Americans.** The chance of being a carrier is increased when one has a blood relative with Sickle Cell Anemia, regardless of ethnic or racial background.

If you are African American and have never been tested to see if you carry the Sickle Cell Trait (one normal gene and one abnormal gene) ask us and we'll gladly provide you with a lab slip to have blood drawn for the hemoglobin electrophoresis.

PRENATAL CARE

VISIT TO VISIT

WEEK TEN — THIRTEEN

"IT'S TIME TO LISTEN"

OVERVIEW

This is the first opportunity during your pregnancy to hear the heartbeat of the miraculous process evolving inside you with a handheld doppler device. At this point, the embryo is approximately one inch in length and an incredible amount of differentiation has already occurred: skeletal frame, heart, eyes, and lungs have formed and are now growing and developing. You have known you are pregnant for only several weeks and already so much has happened. Today will be your first official "OB visit." You'll have a complete medical history and physical exam if it has been longer than a year since your last PAP smear. Based on your history and physical, pregnancy risk factors will be discussed. Routine prenatal blood tests will be reviewed or ordered to be drawn at a lab of your choice if they were not done since your last visit. We will also review, the importance of vitamin supplementation, diet, and exercise and inform you of classes available during the early months of your pregnancy as well as childbirth preparation, breastfeeding, and newborn care classes that may be helpful. Today, we will hear the heartbeat if we can and if we can't we will perform an ultrasound to put your mind at ease. Hearing your baby's heartbeat is a wonderful event and an important milestone for your pregnancy. **Please understand that we do not perform ultrasounds unless medically indicated after the first-trimester scan. If needed, we will refer you to Diablo Valley Perinatal Associates for future ultrasounds.**

THIS APPOINTMENT IS IDEAL TO BEGIN ASKING QUESTIONS AND COVERING IMPORTANT ISSUES:

1. PRENATAL VITAMINS: If you are taking them, how are you tolerating them?
2. SYMPTOMS: Are the symptoms I feel normal and how long will they last?
3. GENETIC SCREENING TESTS: The Nuchal Translucency, NIPT, Carrier Screening Tests, as well as the more invasive CVS and Amniocentesis. Which, if any, is right for me? When should they be done, and what are the risks? **(Be sure to read our section on Genetic Testing).** If you're 35 or will be when your baby is due and would like to speak with a qualified genetic counselor to discuss the risks of fetal abnormalities based on your individual history, ask us for a referral.
4. 20-WEEK ANATOMIC ULTRASOUND: This will be done at the office of Diablo Valley Perinatal Associates. It should be scheduled ASAP if not done already so that it will be done in 20 weeks. Most insurance companies will cover the cost associated with this exam.
5. Based on my medical history, is my pregnancy considered low or high risk?
6. What classes provide the simplest yet most helpful information about my pregnancy?
7. Write down as many questions below as you have. These visits are a better place for us to field routine questions and help us to be more efficient with our daily schedule.
8. **YOUR QUESTIONS:**

a).

b).

c).

PRENATAL CARE

VISIT TO VISIT

WEEK FOURTEEN — SEVENTEEN

"TIME FOR A DIFFERENT WARDROBE"

OVERVIEW

By this time the vast majority of differentiation has occurred. At fourteen weeks, your baby is about 3 ½ inches long and weighs about two ounces. The arms, legs, fingers, and toes are fully formed, complete with fingerprints! The external and internal sex organs are apparent by this time. The stage has been set now for intensely rapid growth. Hopefully, the nausea, vomiting, headaches, and fatigue you may have been experiencing have begun to pass. If you still suffer from these problems, hang in there, they should pass in the next few weeks.

If you are sixteen weeks at this visit, then it's time for the 2nd Trimester AFP blood test if you have decided to have it drawn (whether or not you did the NIPT test.)

HERE ARE SOME IMPORTANT ISSUES TO REVIEW TODAY:

1. LABORATORY TESTS: Were the ones done at my first visit all normal? What is my blood type? Am I anemic?
2. GENETIC TESTING: You have options, so please read our section on genetic testing and be prepared to ask questions. If you have elected to proceed with the second part of the California State's Screening Test, the AFP, then please have it drawn roughly between 16 and 18 weeks. This is the best time to have it drawn to avoid a higher false positive rate in case there are dating discrepancies. Results are available in 2 weeks and can be obtained by calling our office. If there is an abnormality, then know that we will contact you promptly. If you are or will be 35 when your baby is due, then you may have opted for the Amniocentesis. The results take from 10 to 15 days, and you should receive results from the office that performed the test.
3. Please write routine questions below so we can field them at this visit. Of course, call us for urgent matters, but if you have a burning question that requires a simple answer and no follow-up, and your appointment is more than 2 weeks away, you can always email us.
4. **YOUR QUESTIONS:**

a).

b).

c).

d).

PRENATAL CARE

VISIT TO VISIT

WEEK EIGHTEEN — TWENTY ONE

"THIS IS DEFINITELY REAL"

OVERVIEW

Can you believe you are about halfway through this event? The top of your uterus is about at your navel. At eighteen weeks, your baby is about seven inches long and weighs about four ounces. Eyebrows and eyelashes are present, and your little one may be sucking on a finger or toe.

HERE ARE SOME IMPORTANT SUBJECTS TO DISCUSS DURING THIS VISIT:

1. If you have not had the AFP test drawn yet and are still interested, get it drawn! Again, this test is optional and is the second part of the State's Prenatal Screening Program in addition to the NIPT. The results will be available in about 2 weeks. If it is abnormal, we will notify you as soon as we have the results. If it seems like we keep asking about this, it's because we're obligated by the state of California to offer it to every eligible pregnant woman. Keep in mind, it's optional and some women elect not to have it drawn. Honestly, the 20-week ultrasound is more accurate in detecting spinal cord abnormalities such as Spina Bifida and Anencephaly.
2. WEIGHT GAIN: Am I on target? Do I need to adjust what I'm eating or my activity level? What foods might contribute to excessive weight gain?
3. FETAL MOVEMENT: When will I feel my baby move?
4. Have you registered at the hospital yet? If not, you may do so online at www. jmmdhs.com/maternity/
5. Keep writing questions here and call for truly urgent issues. If your questions are not urgent and can wait, write them down below.
4. **YOUR QUESTIONS:**

a).

b).

c).

d).

PRENATAL CARE

VISIT TO VISIT

WEEK TWENTY TWO — TWENTY FIVE

"I CAN FEEL MY BABY MOVE"

OVERVIEW

Quickening is the term we use which refers to the perceived movement of the fetus inside the uterus. Most first-time mothers sense this later than those who have been down this path before. The movement you feel is "exercise" for your baby's growing muscles. Initially, movement will be sporadic, so don't be concerned if you feel it, then don't for long periods of time. Over time, the movement will become more regular and frequent, and reassuring. At this time, your baby weighs over half a pound and is ten to twelve inches long. This visit is usually a quick one. **At this visit, our medical assistants will give you a lab slip for your "Gestational Diabetes screening test." This should be performed between 26–28 weeks**. Don't wait until the last minute to do this. The later you do it, the more likely it may return abnormal. **If you have an Rh-negative blood type, we will also give you a lab slip for an "anti-body screen" test**. We will get the results in several days. CALL US TWO DAYS AFTER YOU HAVE THE BLOOD TEST DONE, AS IT IS IMPORTANT FOR YOU TO COME INTO THE OFFICE FOR A "RHOGAM SHOT" WITHIN SEVERAL DAYS.

We will also give you a prescription to get your Tdap vaccine (**for whooping cough** – **see my explanation in the Common Questions section** regarding this important vaccine), and a prescription for a breast pump, in case your insurance plan covers this and it is something you would like to purchase. Lastly, we will give you some information about umbilical blood storage to read up on and investigate. Umbilical cord blood storage is available and although it is not for everyone, you may find that you are interested in educating yourself further on the subject. In addition to the information that we will provide you, please consider going to the company website to peruse the information or even call the company representative for any questions that you may have. We may be able to answer some basic questions for you, but for comprehensive information, we would ask that you call the company representatives. It is an expensive prospect, and we want you to make an informed decision. There will be only one opportunity to collect blood for storage, and we want to make sure you feel comfortable with the choice you have made. For more details, see my section on **Umbilical cord blood storage** in the **Common Questions** part of this handbook!

HERE ARE SOME IMPORTANT QUESTIONS TO DISCUSS DURING THIS VISIT:

1. Were any abnormalities noted on the 20 weeks Anatomy ultrasound report? Were any follow-up scans recommended and for what reason?
2. When do I need to choose a Pediatrician?
3. **YOUR QUESTIONS:**

a).

b).

c).

d).

PRENATAL CARE

VISIT TO VISIT

WEEK TWENTY SIX — TWENTY NINE

"CRUISIN"

OVERVIEW

If all is well, you are on "autopilot" at this time. You are probably used to the pregnant look, and yet you haven't reached that uncomfortable period you hear your friends talk about. Skin changes and leg cramps may be more noticeable though. Leg cramps usually come on at the miserable time of 2 o'clock in the morning. They are not related to Calcium, Potassium, or Magnesium deficiency, so don't even bother. Ask your partner for a massage instead. And don't forget, never flex your calves and point your toes after midnight!

Your baby's sleep cycles are regulated at this time, so don't be surprised if you don't feel movements for several hours periodically throughout the day. Calcium is being stored in your baby's bones, causing them to begin hardening. Your baby weighs about 1 ½ pounds, now.

HERE ARE SOME IMPORTANT QUESTIONS TO DISCUSS DURING THIS VISIT:

1. If I'm Rh negative, when do I need to get my Rhogam shot? (Short answer: Several days after the antibody screen result is available)
2. Don't forget about the Tdap vaccine. Any time between 27 - 32 weeks! **See our section on the Tdap vaccine in the common questions section** for more details. We provide it in the office for patients with most insurance types.
3. OTHER TESTS: During this time period, we'll want you to have several standardized tests. On this visit our medical assistants will give you a lab slip (if you did not receive it on your last visit) to have a blood panel drawn that checks for gestational diabetes, anemia, and abnormal antibodies (if your blood type is Rh negative only). See the next page if you have been diagnosed with Gestational Diabetes.
4. If you have been diagnosed with Gestational Diabetes (GDM), we will refer you to the Diabetes Center. Please hold your questions until you see the educators at the Center. The diagnosis is not an emergency and the diabetes counselors are better equipped to tell you what the management process looks like. From our standpoint, you and your baby will be fine! Don't panic.
5. **YOUR QUESTIONS:**

a).
b).
c).
d).

PRENATAL CARE

VISIT TO VISIT

WEEK THIRTY — THIRTY ONE

"WHEN IS MY DUE DATE AGAIN?"

OVERVIEW

Your baby is now about 2 ½ pounds. Kicks may start changing from jabs to rolls, as the baby takes up more space in your uterus. You may notice some swelling in your ankles, but this is common. You have probably started your prepared childbirth classes by now. They may be virtual or in person- either is okay. **You should be planning to choose your Pediatricians very soon**: some super-well-respected pediatricians do in-person interviews, and some do not. **When you know who it will be, please let us know. Braxton-Hicks contractions may become more frequent**. These are painless, irregular, and last 20 to 30 seconds. They are common at the end of a busy day, during exercise, or immediately following exercise. Having 30-40 daily is completely normal. If they become more painful and come every 10 minutes or closer, sit down and rest and drink some water. Let us know if you have these types of contractions (the painful ones) every 10 minutes or closer for about 3 hours or longer, as they can potentially cause your cervix to dilate prematurely. CALL US ANYTIME THIS HAPPENS.

If you have recently been diagnosed with Gestational Diabetes, you may be nervous as to how this will impact your pregnancy. **We will have referred you to the John Muir Diabetes Center**, which does a superb job in the education and management of pregnancy-associated diabetes. While you are waiting for your appointment, please be comforted. **This common condition is usually very easy to manage and alterations in the course of prenatal care are uncommon**. With good blood glucose control, pregnancy outcomes are nearly always excellent. Please refer to our section on Gestational Diabetes while you are waiting for your first visit to the Diabetes Center. Today's visit is very easy. In addition to checking the heartbeat and growth, we'll go over the results of your diabetes screening test. If you haven't heard the result yet, usually it means that it is normal. You can also check the result on MyChart. Also, we will keep reminding you about the Tdap vaccine.

HERE ARE SOME IMPORTANT QUESTIONS TO DISCUSS DURING THIS VISIT:

1. How frequently will I be seen from now on?
2. What should I expect from future visits?
3. How active can I be? How late can I travel distances?
4. Be sure to tell us of any unusual symptoms and write your questions here. Call us with any urgent concerns and email us for questions that absolutely can't wait the 2 weeks until your next appointment. Otherwise, let's talk about your questions listed below!
5. **YOUR QUESTIONS:**

a).
b).
c).
d).

PRENATAL CARE

VISIT TO VISIT

WEEK THIRTY TWO — THIRTY THREE

"IS THERE ENOUGH ROOM IN MY BODY FOR THIS?"

OVERVIEW

Your baby's eyes now open and close regularly. The hair on the head is filling out. The skin is still red and wrinkled. Your baby now weighs about 3 ½ pounds. Most women worry about early delivery, but the reality is that most babies born at this gestational age do very well in the nursery and have little risk of long-term physical or developmental problems. So, relax.

HERE ARE SOME IMPORTANT QUESTIONS TO DISCUSS DURING THIS VISIT:

1. PREMATURE CONTRACTIONS VS. PREMATURE LABOR: It is completely normal to have up to 30 contractions per day. The difference between benign contractions and labor is the pain associated with the contractions and the regularity. If they come on with activity and go away with rest – benign. If they come on and keep on getting worse, then we may have an issue. **See "Week 37 – 40"** for more details on what real labor looks like.
2. CHILDBIRTH EDUCATION CLASSES: How are they going?
3. Did you get your Tdap vaccine yet? It's an important step in protecting your baby for the first 6 months after birth!
4. BIRTH PLANS: Are they right for you? (Don't feel pressured to come up with an extravagant birth plan. Keep in mind that we want the same things you want simplicity and a memorable experience. We do pretty much all of the things as a routine that you may come up with on a birth plan). If you feel like you have to generate one, please keep it simple. The more rigid the plan, the more likely the plan turns upside down.
5. YOUR PEDIATRICIAN: Who is it? If you need a recommendation, let us know.

YOUR QUESTIONS:

a).
b).
c).
d).

PRENATAL CARE

VISIT TO VISIT

WEEK THIRTY FOUR — THIRTY FIVE

"THIS IS GETTING OLD"

OVERVIEW

At this point, your baby's lungs are beginning to mature. Your baby may now be causing havoc in your lower pelvic region. The head grinding on your pubic bone and bladder is sure to cause you momentary distress. The only real change in your baby at this point is the size.

HERE ARE SOME IMPORTANT QUESTIONS TO DISCUSS DURING THIS VISIT:

1. KICK COUNTS: How, why, and when to do them. **Please read our section on Kick Counts!** The difference between benign contractions and labor is with the pain associated with the contractions and the regularity. If they come on with activity and go away with rest – benign. If they come on and keep on getting worse, then we may have an issue. **See "Week 37 – 40" for more details** on what real labor looks like.
2. Getting ready to start disability next visit at 36 weeks if you want. The earliest time in an uncomplicated pregnancy that we can take you out of work on disability is the beginning of your 36th week. You will need to obtain a disability form from your work if they have them or go to our website at **www.stephenwellsmd.com then click "Office Functions"** to get instructions for California State Disability Income. If your work needs something extra, i.e. a note, then tell us.
3. GROUP B-STREPTOCOCCI VAGINAL CULTURE: We routinely screen every pregnant woman at 35 to 36 weeks to identify those who carry the bacteria called Group B-streptococci in the vagina. This organism is a normal intestinal bacterium that is commonly present in the vagina, usually producing no symptoms. IT IS NOT A SEXUALLY TRANSMITTED INFECTION. IF YOU HARBOR THIS BACTERIA IN YOUR VAGINA, IT IS COMPLETELY NORMAL. On this visit, the culture will be obtained with a cotton swab from the vagina and the rectum, which often serves as a reservoir for Group B-streptococcus. ASK US TO REVIEW YOUR RESULT WITH YOU at your next visit. If your vaginal culture returns positive, as it does in 30% of pregnant women, don't worry. No treatment is necessary prior to the onset of labor, although we will treat you with an intravenous antibiotic during your labor to protect your baby. We treat our patients who harbor the bacteria because studies have shown an association between neonatal pneumonia and/or meningitis and maternal vaginal "colonization" of Group B-streptococcus bacteria. The risk of serious illness without treatment is still very low, about 1–2%, but we feel more comfortable treating moms who are carriers to further reduce risk. **Please see the section on Group B Streptococcus.**
4. Any questions regarding your birth classes?
5. Let's start talking about labor plans!!!

YOUR QUESTIONS:

a).

b).

c).

PRENATAL CARE

VISIT TO VISIT

WEEK THIRTY SIX — THIRTY SEVEN

"HOME STRETCH"

OVERVIEW

If you go into labor at this time, we will probably not stop you. You have now made it to the last leg of your journey. We will check your cervix each visit from now on. Changes we may report to you are the dilation (how many centimeters your cervix is open), effacement (how shortened or thinned out the cervix is), and station (how low in your pelvis the baby is). **These changes are of some interest to us but unfortunately, they don't allow us to predict with any accuracy when your labor will begin**.

HERE ARE SOME IMPORTANT QUESTIONS TO DISCUSS DURING THIS VISIT:

1. LABOR PRECAUTIONS: when to call us. **See the next section** for a preview of when to call.
2. KICK COUNTS.
3. GENITAL HERPES: If you have genital herpes and have frequent outbreaks, you have the option, at 36 weeks, to take pregnancy-safe prophylactic antiviral medication (Valtrex or Zovirax) until you deliver. These medications dramatically reduce the chance of an outbreak at the time you enter into labor. If you do have an outbreak when you enter labor, or even 7–10 days prior, it is recommended that you deliver by cesarean section, to reduce the chance of transmission of the virus to your baby. **Please see the section on Herpes Virus.**
4. Review special concerns that you should convey to the labor and delivery nurses when you go in, i.e., Group B-streptococci status (be sure to ask us your status, whether positive or negative, for GBS), blood type, previous cesarean section, significant medical illnesses, etc. If you can't remember all of the important stuff, don't worry. There are copies of your prenatal records at the hospital by this time
5. What is the position of the baby? Is the head down? It is important that we know this information during this visit. **Please read our section on "checking the cervix" in the Common Questions section** for our thoughts on this.

YOUR QUESTIONS:

a).

b).

c).

d).

PRENATAL CARE

VISIT TO VISIT

WEEK THIRTY SEVEN — FORTY (ONE)

"ANY DAY NOW"

OVERVIEW

This is a time to review and make sure everything is in order. By this time you should have: Picked the pediatrician, registered at the hospital, arranged for child care if you have other small children, packed your hospital bags, and mapped out the route to the hospital (in case you haven't been there three or four times already). IS EVERYTHING READY? Okay. Now all you can do is hurry up and wait! Be encouraged by weekly changes in your cervical exam. Walk lots if there are no contraindications, i.e. toxemia, etc. If you have not previously needed or have declined induction of labor and are still pregnant at 40 ½ weeks, we'll start talking about inducing your labor at 41 weeks. Otherwise, these term visits are relatively simple. Basically, we'll check your baby's heartbeat, measure your uterus, and check your cervix during these quick visits.

HERE ARE SOME IMPORTANT QUESTIONS TO DISCUSS DURING THIS VISIT:

1. LABOR PRECAUTIONS – WHEN TO CALL:

    a. Contractions: When they are progressively increasing in frequency over time so that they are occurring every 5 minutes (every 10 minutes if you've been down this road before) for an hour AND AT THE SAME TIME is progressively becoming so intense that you are not smiling anymore AND AT THE SAME TIME are increasingly longer in duration (about 45–60 seconds from 15–30 seconds). When all three characteristics are present, it's almost always a sure bet you're in labor.

    b. BLEEDING: No need to call us if you've passed blood-streaked mucous, i.e., the "mucous plug." We can't predict when you'll enter labor based on the passage of the plug. (And please, please, please – don't put the mucous plug in a Ziploc baggie and bring it in to show us. We'll trust you that you've passed the plug). **But if you are having bright red blood from the vagina, please call us immediately.**

    c. RUPTURED MEMBRANES: **If you feel a gush of fluid or a continuous trickle of fluid, please call us immediately.** If the fluid is greenish or brown, tell us so when you call.

    d. DECREASED FETAL MOVEMENT: Perform "kick counts" several times daily IF you notice a significant decrease in your baby's movement. **If the criteria mentioned in my chapter on "kick counts" are not met, please call us immediately.**

PRENATAL CARE

VISIT TO VISIT

WEEK THIRTY SEVEN — FORTY (ONE)

CONTINUED...

IMPORTANT QUESTIONS TO DISCUSS DURING THIS VISIT:

2. LABOR PRECAUTIONS – WHOM TO CALL:

a. **CALL OUR OFFICE FIRST: 925-935-5356**. If it's "after hours," you will be connected to our answering service through a set of triage instructions. When you hear the recording, press the number 1, wait, then the number 2, then when prompted leave your phone number, then wait for the operator to leave your message. The on-call doctor will call you back, then may ask you to call L&D to let them know you will be coming in for an evaluation.

b. If you are unable to connect with our delivering providers or the on-call doc in a reasonable amount of time (10–15 minutes), call directly to Labor & Delivery (L&D) at **John Muir Medical Center (925-947-5330)** and ask for advice, or if you really can't wait and are worried, proceed directly to L&D and we'll work out the details when you get there!

OUR
BIRTH PLAN

BIRTH PLAN FOR TERESA AND STEPHEN WELLS

The following was presented in jest to my wife's Obstetrician, the night before her VBAC induction. Don't take this seriously at all. I include it here because every time I read it, I crack up, remembering the actual events of her labor.

We, Teresa and Steve Wells, are looking forward to a wonderful birth experience. We understand and have learned through our "Bradley Method" childbirth education classes that although occasionally there may be some minor complications such as shoulder dystocia, placental abruption, and uterine rupture, childbirth is almost always a very natural experience that usually doesn't even require the presence of an Obstetrician. Although we know that there are some hospital policies that need to be enforced, we would ask for the most natural form of childbirth possible, and that our wishes for a beautiful experience be respected. The following is a list of our preferences during the course of labor. We know that some of them may not be able to be performed for various reasons, but we ask that you try to aid us in completing each item on our checklist so that we may impress all of our "Bradley Method" colleagues:

Birth Plan

1. Teresa would like to labor on a bed of garden-fresh scented pillows surrounding her, and to be able to sip herbal tea and listen to Enya.

2. Early during the course of labor, Teresa would prefer no artificial form of anesthesia. Instead, she would like a mixture of garlic paste and dill weed to be massaged onto her abdomen to minimize discomfort from her gentle little labor pains.

3. She does not desire the use of an I.V., but would rather replenish her fluid stores and maintain electrolyte homeostasis with Crystal Geyser mineral water served on ice.

4. She would like her Obstetrician to be at the bedside holding her hand and offering mild words of encouragement the moment her cervix is dilated to 3 centimeters, and to remain at the bedside until she has delivered and completed her bonding experience.

5. We prefer unmonitored labor. If the fetus is in jeopardy, we believe it to be a natural, predestined event that should not be interfered with.

OUR
BIRTH PLAN

Birth Plan Continued...

6. In the unlikely event that the labor pains become intense, she would like to internalize the feelings of pain and become introspective. If this technique is not effective, she would like to be allowed to use strong adult language. However, no mind-altering narcotic medications or leg- paralyzing epidural anesthesia should be suggested or encouraged, even if the pain literally kills her. Her goal is to undergo natural childbirth at any cost. Anything less will lead to deep-seated feelings of guilt and worthlessness.

7. When she is ready to deliver, she desires the "urge to push" technique, even if she is only at 6 centimeters. She would rather not have her interfering Obstetrician tell her when she should or shouldn't push.

8. Teresa would prefer no form of anesthesia that may dull her sense of excruciating, brain-racking pain as her beloved newborn rips her supple perineum nearly unrecognizable as she listens to Enya and sips her herbal tea. As an alternative, she would like 37.5°C warm compresses with rosebud scented mineral oil massaged into her perineum to uselessly reduce the severe trauma and multitude of lacerations that will undoubtedly occur when the head passes through. Should the shoulders become entrapped, she would like all persons in attendance to urge little Katie through the birth canal with song, instead of using any unnatural barbaric maneuvers that the Obstetrician may have in mind.

9. Immediately after delivery, Teresa would like Katie on her breast. The umbilical cord should not be clamped or cut until it has completely dried up and fallen off little Katie. Should there be a little heavy hemorrhage, we would prefer to coax Katie to "suck a little harder" instead of the use of the evil Pitocin.

We understand that there may be some alteration in the above birth plan, but keep in mind that if we do something different, we may be the laughingstock of all our "Bradley Method" classmates.

AUTHOR: *Stephen R. Wells, MD*

LABOR
AND DELIVERY

"HONEY, IT'S TIME"

You're in labor and sure of it. There's no doubt this time. What's going to happen next?

FIRST, CALL US

If you go into labor during office hours, you may call and speak with either of the midwives, the nurse practitioners, Dr. Thompson or Dr. Wells. Just DON'T email or MyChart message us. If it is after hours, then CALL the office and our answering service will put you in touch with one of the delivery providers in our office or with one of the on-call doctors (the same thing about messaging us- unbelievably, it's happened more than a few times). After hours, you will hear a triage phone message that should ALWAYS end in a conversation with a live person. When you **call 925-935-5356** and hear the message, you should be given the option to press the number 1 then the number 2, and then be asked to punch in a 10-digit phone number (your area code plus your number). Then wait and your call should be answered by an attendant who will then text or call the on-call physician. Your call-back from the on-call physician should be received in a reasonable amount of time (10–15 minutes, possibly longer if our hands are tied up in surgery, delivery, etc.). Regardless, we can help put you at ease and direct you to the hospital. After we talk with you, we'll ask you to call the **hospital's Labor & Delivery Unit at (925)947-5330** to notify them of your impending arrival. If you have any special concerns about your labor and delivery i.e., your birth plan, needing antibiotics for mitral valve prolapse or for a positive Group B streptococcal culture, etc., mention it to the nurses when you arrive. Your electronic prenatal records are already available on L&D, so the nurses will have them to review when you arrive. If for whatever reason you don't get a response after a reasonable amount of time following your call to our office, repeat the call. If still no answer, head to the hospital and we'll work out the details when you get there. Unfortunately, communication glitches happen.

NEXT, GO TO THE HOSPITAL

If labor has commenced or if your membranes have ruptured, we would feel more comfortable having you at the hospital, being carefully monitored. The risks of complications from staying home longer are remote, but there can be serious problems that can be prevented or promptly treated if you are assessed early during the course of labor. Again, clearly stated, it is our desire that if your membranes have ruptured OR you feel you are in labor, we want you to head to the hospital for evaluation.

UPON ARRIVAL

Ahhh, paperwork. Another reason for getting to the hospital earlier. Hospital policy requires you to fill out consent-for-treatment forms, security forms, and others according to their specific policy. The "questionnaire," goes over your life history with your attending labor nurse between contractions. What fun! Plugging in the fetal monitors, consists of two parts; One monitors the fetal heart rate pattern and the other the contraction pattern. Then there's getting settled, realizing you're in for the duration and there's no turning back. And then, remembering all of the items you forgot at home. At this point, try to relax and go with the flow. Everything will fall into place. Besides, there is nothing you can do about "loose ends" now anyway.

LABOR
AND DELIVERY

WHO WILL DELIVER MY BABY?

This question has very likely been circling around in your head since the first time you set foot in our office. For years Dr. Wells told his patients that he usually delivered the vast majority of the patients in his practice. Many wished to have a 100% guarantee that he would be there on that special day. But most also understood that he "had a life also" and knew he couldn't actually give that 100% guarantee. Interestingly, when he asked patients about their experiences having been delivered by a colleague, the usual answer was "we had a great experience." Understanding that the experience of the entire labor and delivery process was ultimately what patients are looking for, he expanded his practice to what it is today. And it is our collective desire that you have an experience in Labor & Delivery that despite its inherent challenges, will leave you with very fond memories. The way our practice is structured, it is a rare situation where you would be delivered by someone outside of our practice that you have never met. It can happen, but very rarely.

Some women may have concerns about being delivered by a midwife. But looking back over the decade of having them in our practice, we have found that they are loved by the couples who are delivered by them, and even come back for subsequent births specifically for their midwifery care. Please visit our website **www.stephenwellsmd.com** for testimonials that came from a survey sent out years ago.

Please don't try to figure out who is on for any particular day. With vacations and mid-week conflicts, we can barely figure our call own schedule out, as it changes fairly frequently. Suffice it to say that if the event is a scheduled one (think cesarean sections, elective inductions, etc.), you will know with near certainty (not quite a 100% guarantee) who will be managing your labor and delivering your little one. For spontaneous labor, it will be one of the doctors or one of the midwives, and sometimes both depending on the circumstances.

THE REAL TRUTH ABOUT THE PROGRESS OF LABOR

Our primary goal is for your labor and delivery to end with a healthy infant, a healthy mom, and fond memories. In accomplishing this, we want to allow you to proceed in the way you have envisioned. It is our philosophy that your labor should progress with minimal intervention. If you are in spontaneous labor, we will only augment your labor if it is not progressing in a timely fashion. It is important for you to understand that labor prolonged more than normal leads to unnecessary exhaustion and profoundly increases the risk of infection, operative deliveries (forceps/vacuums), and cesarean sections. Momentum is key! If labor stalls or if progress stalls, that's not good. At all.

After we have assessed your baby by monitoring the heart rate for a short period of time, you may walk around in your room or in the hallways. Hospital policy dictates that we draw blood and start an I.V. If you need antibiotics during labor we can hook up your I.V. when receiving the medication, allowing you to move about freely. Otherwise, they will "saline lock" the I.V., meaning we have access in case we have to hook you up to fluids during labor. Showering is fine. You may rock in a rocking chair and use a birthing ball if you so desire.

LABOR
AND DELIVERY

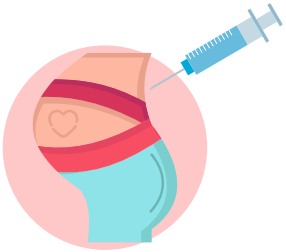
NATURAL CHILDBIRTH

The decision to undertake labor and delivery without "pain medication" is a misnomer. During labor, your body actually produces chemicals called endorphins, which act like morphine to provide slight relief from the pain associated with contractions. In addition, you can use breathing techniques to help maintain a sense of control during labor. At this time, you will want to follow the approach learned in your childbirth education classes.

We will not hinder you from going through labor without analgesia. However, if you ask for medication for pain relief, we will give it to you. Keep in mind that sometimes a patient's response to pain (clenching, etc.) can hinder the progress of labor, and when pain is relieved, labor can speed along quickly. When pain is relieved, all of the normal processes of labor occur without resistance.

NATURAL CHILDBIRTH WITH A LITTLE HELP FROM THE ANESTHESIOLOGIST

There is nothing unnatural about going through labor with an epidural. With an epidural, your course of labor will be shorter, more restful, and more enjoyable. You will be more rested in the end when you are looking forward to spending time with your newborn. Don't underestimate the value of being well rested as you face going home with a newborn that likes to eat every few hours.



PAIN CONTROL IN A NUTSHELL

In an effort to make your whole experience as pleasant as possible, various forms of pain relief are available. Intravenous narcotics and labor epidurals are the primary methods used today.

Intravenous narcotics are most commonly used to "take the edge off" labor pain. Advantages include easy administration and quick onset, and these medications do not inhibit your ability to move about. The disadvantages are that they tend to make you feel doped up and they don't take away the majority of the pain. They do cross the placenta but the effects on the baby are negligible. For patients who don't mind feeling like their head is in a fog, this is a great way to go.

Labor epidurals are the "gold standard" for pain relief during labor. They take away most if not all pain associated with labor and delivery. There are no effects on the fetus. Complications are extremely rare, and therefore it is very popular at most hospitals.

Some childbirth educators may have taught you that epidurals slow the course of labor. However, after years of anecdotal experience, we believe that although an epidural may slow the frequency of contractions for a short period of time, in general, they shorten the time until delivery. Epidurals are placed when the patient needs pain relief, not when the cervix is dilated to a certain number of centimeters.

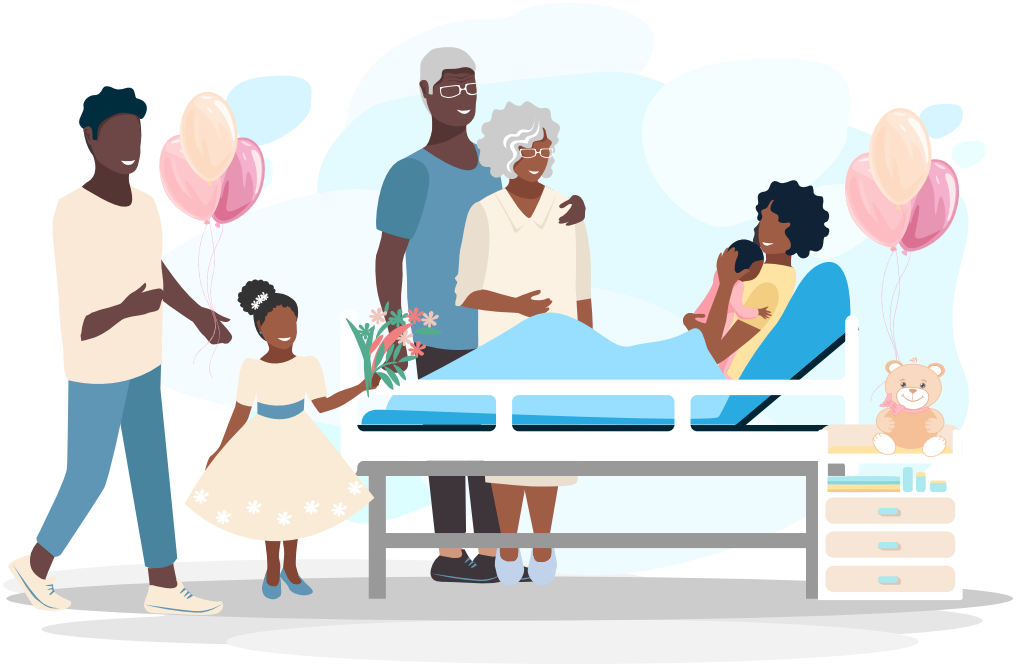
LABOR
AND DELIVERY

SPECIAL DELIVERY

Our methods of delivery are all basically the same. We coach you, but we let you do all the work. If you have a birth plan, we will follow it as closely as possible. We won't intervene unless harm will come to you or your baby by waiting. Our rate of use with the vacuum/forceps is very low, and our C-section rates are very low (unless you have a very rigid birth plan, in which case your risks of cesarean will likely be higher). We won't do anything for our own convenience. We do not do routine episiotomies, but if we strongly recommend them, don't be discouraged or offended. We're trying to save you from worse types of lacerations, including those that tear through the labia, clitoris, or urethra.

You may have as many people as you want in the room for the delivery, and feel free to take pictures, videotape, etc. This is your special time and we want you to enjoy the miracle. We would advise, however, that you give serious thought to who you wish to have in the delivery room with you WELL IN ADVANCE. Having done this for a while, we are continually amazed and slightly amused at family dynamics right at the time of delivery. Decisions are made right at the last possible moment and concerns are expressed so that no one's feelings are hurt. If anyone asked what generally works the best, we'd have to say that a partner helping their wife through labor and delivery makes for a fantastic experience. After all, the whole process began intimately with just the two, so why not the same for the end?

Additionally, we'd say that family members and friends tend to congregate in one part of the room and "talk quietly with each other," which to a laboring woman has the same calming effect as a jackhammer. Nevertheless, if you've given it plenty of thought, and want multiple people in the room for the grand finale, it's okay by us.



LABOR
AND DELIVERY

THE AFTERMATH

After delivery, you may rest, breastfeed, eat whatever you want, or just stare at your baby in utter amazement. Whatever you want to do is fine. You'll stay in the delivery room for about 1 hour and then the nurses will take you to the postpartum ward to rest. Our best advice is to get as much rest as possible. A remarkably short time passes until you'll be leaving the hospital and its "24-hour child-care services."

While on the postpartum ward "Mother-Baby Unit", the nurses will help you get used to taking care of your newborn. Gone are the days of baby-sitting nurses in the "well baby nursery" and as John Muir is a "baby-friendly" hospital, your baby will be with you until you go home. This is a good time to receive some shotgun education. If this is your first time as a parent, it may be like drinking through a fire hose. Be patient with yourself and take it in stride – the nurses are very helpful in getting new parents ready for the journey home.

Anticipate a visit from one of our incredible Lactation Consultants. They are very helpful and can give great advice on breastfeeding and breast care. The nurses will do a great job helping to get you started, and the lactation consultant will peek in and make sure things are going well if you are struggling a bit and will spend the time you need to feel more comfortable with the process.

A provider from my office will come by for "rounds" each day after you have delivered (or a call partner if on some weekends). The postpartum nurses do the lion's share of the work, and largely we will come by just to check to make sure everything is going smoothly. At the appropriate time, we will begin the discharge process.

Generally speaking, new parents take their newborn(s) home 2 days after vaginal deliveries and 4 days after cesarean sections. That being said, here is what we usually see: First baby, moms want to stay for the purposes of help and education, and because many moms experience variable levels of uncertainty regarding their ability to actually keep their newborn alive when they get home. Second baby, moms invariably miss their first child and want to get home as soon as possible (they must stay at least 24 hours per hospital policy and pediatric recommendations, however), because their other child "needs" them. Third or subsequent babies, moms leave the hospital kicking and screaming, "you can't discharge me yet, you have no idea what I have waiting for me at home! Please please, please let me stay. Just one, no. Just three more nights." But alas, it is a hospital, not a hotel.

So, when you feel ready, we will set you free with your new precious cargo. Mission accomplished, and ahead lies the greatest adventure in life!

HOME FROM
THE HOSPITAL

ACTIVITY

When you first get home from the hospital, you will no doubt be tired and sore to varying degrees. For the first week or so, plan on lounging around the house getting used to a much different routine. Rest when you can and let those around you take care of details such as keeping the house clean and cooking. Walking around the house and going outside for short walks should be fine but let your body guide how much you do. If you do something and it hurts, don't do it. Wait a little longer. You will progressively be able to do more and more with each passing day. Soon you will be able to carry on with your normal activities. You may shower and take tub baths as soon as you get home from the hospital (hold off on tub baths if you've had a cesarean section until two weeks have passed). Jacuzzis are fine, as well.

VISITORS

For the first several days, it is normal to have family and friends come by to see the newest addition to your family. Most will come by at their own convenience and with the best of intentions. Please heed my advice: Demand that your partner protect you! If people come by to visit at staggered time intervals, you will get frustrated because of the exhausting task of entertaining visitors. Several days of this may lead to profound exhaustion, and difficulty caring for your newborn. My advice is for your partner to coordinate visiting hours for family and friends. For example, if people call with an interest in coming by, ask them to come during a specified one-hour interval. That way, you will know that you will get rest after that one-hour visit with multiple guests has passed. Trust me. Your guests won't mind having guidance on stopping by at a time that is good for the new mother!

EXERCISE

You may be able to resume exercising as early as two weeks after delivery. Again, let your body guide how much you do. If you do something and it hurts, that is your body telling you that you're doing too much too soon. Remember, you are kind of starting from scratch, and your pelvic girdle (the bones that make up your pelvis) is like Gumby. Start slow and work yourself up over time. Keep yourself well-hydrated at all times. Walking and swimming remain the best exercises (swim only after your bleeding has completely subsided), although you may jog, run, use the StairMaster, or lift weights at your own pace. Obviously, wait a while for bike riding. If you've had a cesarean section, wait at least 4–5 weeks before beginning any vigorous exercises. Walking should be fine earlier than this time as long as it is not too uncomfortable.

DIET

Eat healthily and try not to purposefully lose weight. Let it come off from exercise, not by decreasing caloric intake. Remember you need about 500 extra calories for the purposes of breastfeeding. Keep taking your prenatal vitamin. You shouldn't need to continue taking iron supplements unless you lost a lot of blood during delivery, but extra calcium is not a bad idea.

We've found that most women who come back for their 6–week postpartum visit weigh on average the same as they did when they were 20 weeks pregnant. This seems to be a good goal. Women who follow this trend usually weigh their pre-pregnant weight by three months following delivery. Again, it is usually exercising that allows women to return to their pre-pregnant weight, otherwise, it rarely happens. Keep in mind that it is important for the baby not to reduce caloric intake in an effort to reach your goal weight.

HOME FROM
THE HOSPITAL

BREASTFEEDING

Breast milk will come in 2–4 days following delivery. Breastfeeding is nature's best for your child, so we do recommend you give it an honest try. When successful, it is so much easier for you and your baby. Hopefully, you received some excellent training and education while in the hospital. If you experience difficulty with the process of breastfeeding, please **call the John Muir Health Breastfeeding Support Line at (925)947-3331**. Lactation consultants are specialists in helping moms learn how to breastfeed successfully and are available to speak with you.

If you have problems with engorgement (very hard, tender breasts associated with fever, flu-like symptoms such as muscle aches and chills) we recommend hot showers, moist heat applied to the breasts followed by feeding, manual massage to express milk, or a breast pump to empty the breasts as much as possible. Call us if you experience these symptoms AND a red, painful area on a particular area of the breast. This may represent a condition called "mastitis" which usually warrants antibiotic therapy as soon as possible. If you decide not to breastfeed or cannot for some reason, that's okay. Even though society puts a ridiculous amount of pressure on women to breastfeed, many decide not to or can't because of certain conditions. Don't feel bad and don't feel like you're not being a good mother.

Remember 3 things:

1. Formula contains plenty to provide your newborn with adequate nutrition.
2. Breastfeeding isn't for everyone. Just because you choose not to breastfeed doesn't make you a bad mom. People judging you about your choice not to breastfeed need to find a new hobby.
3. The same women who so adamantly support breastfeeding with the mindset "It's the best nutrition for my child – how could I even think about giving my child anything but the best?!" are likely the same women you'll see cruising through Burger King with their kids for that OH-SO-Nutritious lunch (with a special toy, of course).

A quick story from Dr. Wells: A patient almost left our practice because we had formula out in our waiting room to use as samples for women to take if desired. She was so offended "How could you possibly do something like marketing formula when you know breastfeeding is universally the best? I thought you were a baby-friendly office. I'm not sure I can stay here and be under your care…blah blah blah". She kept on going and all I could think of was the woman I saw literally just before her who was pregnant and had previously undergone a double mastectomy for breast cancer. I left the room having nearly bitten my tongue off listening to her. I thought briefly about making an introduction to my other patient but quickly discarded that idea.

Dr. Wells' point: Keep it in perspective. There are many women who don't breastfeed. They are not bad moms, period. If you decide not to breastfeed, your child will still grow up with the same chances of being a productive member of society as any other breastfed kid.

That being said, if you are not going to breastfeed, wear a sports bra plus a small bra on top of the sports bra every day, 24 hours a day (except in the shower) until your breasts become soft again. Ice packs help with the 2-4 days of engorgement you'll feel after your milk has come in. Take Motrin or Vicodin for the discomfort as needed.

HOME FROM
THE HOSPITAL

BLEEDING / STITCHES / HEMORRHOIDS

Bleeding should taper in the week following delivery, and ultimately stop altogether. When breastfeeding, the patterns of bleeding are variable. You may find that the bleeding stops completely by the 5th to 6th day after you deliver. On the other hand, you may have intermittent bleeding/spotting or light continual daily spotting that lasts for quite some time. Even past 6 weeks. However, if your bleeding doesn't subside and remains heavy or clotty for longer than a week, please call the office. We may not recommend anything at that time, but we'll want to remain in close contact with you. Sometimes women pass tiny pieces of placental membranes in the days following delivery. This is fairly common. The uterus is usually very effective in removing loose bits of membrane and tissue as it "cleans house." Rarely, if the bleeding is significant, we may need to help the uterus in the housecleaning process. Help may be in the form of medication to cause the uterus to contract harder, thus expelling residual tissue and blood clots. At times we may also need to help by scraping the inside of the uterus, called a D&C. This can usually be done in the office but if necessary, can be done at the hospital.

The stitches we use to repair episiotomies or lacerations are dissolvable. That means that they last long enough to allow complete tissue healing before dissolving completely. We do not need to remove any stitches. Sometimes women notice the knots hanging loosely weeks after delivery. Don't worry, they'll fall out as soon as they have dissolved completely underneath the surface of the skin. It means that they've nearly completed their task.

When you first get home, your perineum may be quite sore, swollen, and bruised. This can be expected, as you did JUST GIVE BIRTH! Ice packs, a soft pillow, and pain medications (Motrin or Vicodin) should ease the pain just enough. Some women find that using a donut pillow (with a hollow center) works well, especially if hemorrhoids are a problem as well. Sitting in a tub of warm water with Epsom salts (takes the sting out of the water) may help relax you and ease the tenderness. The discomfort usually resolves in 7–10 days, but sometimes more time is required. If you notice that the redness doesn't go away or that the discomfort steadily increases, or if you notice pus coming from the repair site, call us immediately. Infections are very rare (surprisingly) but may require prompt attention. In the absence of any problems, complete healing occurs usually by about 4–5 weeks.

If hemorrhoids have been a problem for you during your pregnancy, they most likely will cause a problem during the immediate postpartum period, before slowly going away. The best advice is to use ice packs to reduce swelling and use Hydrocortisone 1% cream several times daily. Don't worry! Most of them become much less symptomatic over a few short weeks. If the hemorrhoids become increasingly painful and hard, however, let us know. Occasionally, blood clots form inside the hemorrhoidal veins, causing extreme pain and inability to sit. If this happens, surgical drainage of the thrombosed (clotted) vein is usually required (instant relief!).

HOME FROM
THE HOSPITAL

BLEEDING / STITCHES / HEMORRHOIDS CONTINUED…

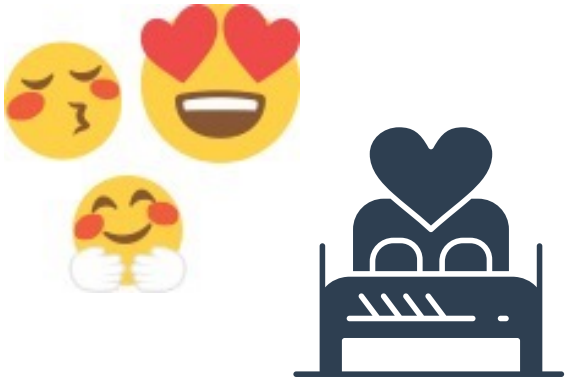
If a cesarean section was performed, the incision usually heals very nicely and does not require a lot of attention. Your cesarean incision was likely closed with dissolvable suture and medical-grade super glue (rarely do we close with suture and steri-strips. If we do, leave them alone and we will remove them at your two-week visit). While the incision heals, don't be nervous if it gets wet in the shower. Just pat dry when getting out (don't rub the incision). Generally, leave it alone and it should heal up very nicely. Invest in a roll of silicone skin tape (may purchase from Amazon).

After the incision has healed for 3 weeks or so, cut the tape to the length of the incision and apply per the directions. Leave it on for a week, remove it, and reapply. Do this for several months to discourage the growth of keloids, an inflammatory reaction in healing skin that leaves the incision knotty and lumpy in some women. If you notice the incision getting red, swollen, or leaking pus or blood during the first few weeks, call the office during the day. If an intense redness and bubbling of skin under and around the glue occur, you may have a skin glue allergy. If this is the case, please call our office during the day. We will either have you come in for a look or instruct you to soak the incision with Vaseline to slowly break the glue down so it can be rubbed off.

SEX

If you find that you've gotten enough sleep to where you can begin thinking about other things, you may find that you begin to consider sex again. As long as you are healed up, you have our blessing. If you are breastfeeding, consider using a lubricant such as Astroglide (available at CVS, Walgreens, or other pharmacies). When a woman breastfeeds, there are very low levels of circulating estrogen in her body. As a result, the vagina, which is dependent upon estrogen for lubrication and elasticity, becomes thin, dry, and somewhat stiff (lacking normal elasticity). Lubricants help to make intercourse more comfortable. For the first few times, start very slowly.

Gentlemen, the sex isn't really about you this time. Your partner is likely to be very tentative the first few times, so go at her pace, and make her feel as comfortable as possible. Don't presume everything is feeling okay for her unless she tells you. Allow her to take her time. By the way guys, did we mention that the sex isn't about you the first few times after delivery?



BLUES VS DEPRESSION

THE MOODY BLUES AND DARKER SHADES

You've finally come home with your little miracle. Hopefully, your experience was as pleasant as childbirth can be. Keep in mind that it is common to have mixed emotions about your newly and dramatically changed life. **In fact, as many as 80% of women will experience Postpartum Blues ("baby blues") after delivery**. This transient mood disturbance is VERY common. It most typically occurs within 3 to 10 days after delivery and can last from days to several weeks. If you are tearful for no apparent reason, feel fatigued, irritable, unable to sleep or sleep all of the time, or if you are moody and feel like you can't cope with the new changes, then you may have the postpartum blues. These symptoms are common, as caring for your newborn is a 24-hour-a-day job. This new responsibility is demanding and at times can be very frustrating. If you find yourself experiencing the blues, try to set aside time during the day just for yourself – doing other things that you enjoy, like taking a hot bath, exercising, writing letters, or even just catching up on sleep! Find family members or close friends to watch your infant for just a few hours periodically to give you "sanity time" for yourself. Keep in mind that this sense of feeling down will most likely pass in a couple of weeks.

If a few weeks have passed since your delivery and you feel that the "baby blues" has not passed and in fact have worsened, you may have Postpartum Depression. This condition may also be accompanied by feelings of guilt and worthlessness or having dangerous thoughts about yourself or your infant. Women who are more likely to develop postpartum depression are those moms who have a personal or family history of depression or those who have suffered from severe PMS. **Although less common than the postpartum blues, postpartum depression affects about 10–15% of all mothers**.

Postpartum depression can last up to 6–9 months. If treated, it carries an excellent prognosis. Unfortunately, 80% of the time this problem goes undetected and untreated. Delayed diagnosis unnecessarily prolongs the depressive state and makes it more difficult to treat. In addition, it can have a devastating effect on a woman's life and the health of her family, as she sinks deeper and deeper into depression. Therefore, diagnosis and prompt treatment consisting of support, psychotherapy, and medication are of paramount importance.

If you feel like you may have symptoms of postpartum depression, please make the effort to let us know. Simple measures can be instituted early so that you can be on the road to recovery in a short period of time. We can refer you to several counseling centers that specialize in the complex issues associated with postpartum depression. In addition, we can prescribe medications that are extremely safe and very effective in treating hormonal imbalances that are found in women with this condition. Lastly, national organizations devoted to the study of postpartum depression also provide literature and newsletters for the general public.

This section continued on the next page↴

BLUES VS DEPRESSION

THE MOODY BLUES AND DARKER SHADES CONTINUED...

The only way we can help you determine whether or not you are suffering from this relatively common and "very treatable problem" is if you share with us what you are experiencing as early as possible. We would like to help you, so please don't hesitate to ask. And please don't wait until your 6-week postpartum visit to let us know.

Lastly, if you feel you cannot return to work because of feeling overwhelmed with anxiety or depression, we are happy to extend disability, but under very specific guidelines. We are happy to provide disability so long as it is not fraudulent. If you come to us at 6 weeks and say please write me off work and I want disability extended, that likely won't work for obvious reasons. We will not doubt your sincerity or your condition but will require that you see a therapist and have them provide us with a note recommending that you be off work because of your condition. Only after that will we sign off on the disability extension. We will require updated letters from your therapist to continue your ongoing disability. That keeps us out of jail and actually will serve you best in the long run. Be aware that it takes a while to get an appointment with a therapist, so please don't wait until the last possible moment.

POSTPARTUM
CONTRACEPTION

THE LEAST-READ SECTION IN THIS WHOLE BOOK

Something near and dear to the hearts of new parents is the subject of post-partum contraception. In this section, we will explain the most popular options for those couples that would like to wait a while before expanding their families.

BIRTH CONTROL PILLS

The most popular form of contraception following the delivery of a child remains oral contraceptives, although hormone-containing IUDs are catching up quickly because of their convenience (please read the section on IUDs on the next page). This is true despite the popular misconception regarding the use of oral contraceptive pills while breastfeeding. Some women still believe that the hormones found in oral contraceptives can be dangerous to their young infants. This simply is not true. Studies have confirmed that the hormones associated with birth control pills, both estrogen and especially progesterone, do enter into breast milk, but have no clinical impact whatsoever on infants. There are many years of retrospective data that confirm the safety of birth control pill use during breastfeeding.

Another area of concern regarding the use of birth control pills is the impact they may have on breast milk supply. Physiologically speaking, if a woman takes birth control pills immediately after giving birth, she will not lactate. However, once lactation is initiated, estrogen-containing birth control pills will not stop it. Estrogen-containing pills may, however, decrease the volume of milk produced to varying degrees. Therefore...

WE DIVIDE MOMS INTERESTED IN CONTRACEPTIVE PILLS INTO TWO CAMPS

1. Moms who produce enough breast milk to feed a small village. These moms will rarely notice a significant drop in breast milk supply and therefore do quite well on standard-dose birth control pills. The benefits derived from the use of estrogen-containing birth control pills include significant help with the emotional roller coaster new moms experience in the first several months following delivery. In addition, estrogen in standard birth control pills helps to restore the vagina to a more natural condition. There is increased lubrication and elasticity of the vaginal tissue, which contributes significantly to making sexual intercourse more comfortable. In addition, hot flashes often experienced by moms who breastfeed are relieved quite effectively with standard or low-dose estrogen-containing birth control pills.

2. Moms who produce just barely enough milk for their newborns. We find that these moms may sometimes have just enough of a drop in breast milk production when taking standard or low-dose estrogen-containing birth control pills that their infants become more irritable and experience inadequate weight gain. For these moms, there is the “mini-pill.” This is a low-dose, progesterone- only pill that is effective only in moms who are breastfeeding or pumping regularly (a minimum of five times daily). The benefit of this pill is that there is little or no impact on the breast milk supply whatsoever. The drawback to this type of pill is that it has to be taken at the same time each day and is effective only when used during full-time breastfeeding or pumping. In addition, there is no benefit to the vaginal tissue or control of hot flashes.

CONTRACEPTION

BARRIER METHODS

Devices, including condoms, diaphragms, or cervical caps are used primarily for women who for one reason or another can't tolerate birth control pills. They are good protection against pregnancy only when used correctly. The pregnancy rates associated with barrier methods are as follows: with typical use over a one-year period, the pregnancy rate with condoms is 12%. That is, 12% of women using condoms regularly for one year will become pregnant. During breastfeeding, this percentage would be less, as lactation suppresses ovulation. The pregnancy rate associated with diaphragm use over one year's time is approximately 18%. To put these numbers into perspective, pregnancy rates with birth control pills are roughly 1% to 2% per year.

INTRAUTERINE DEVICE

An increasingly common contraceptive device used during the post-partum period is the intrauterine device. The rise in popularity of the IUD has occurred in the face of great conflict. There have been many myths and misconceptions associated with today's IUD. In the 1970s, an IUD called the Dalkon shield was manufactured and subsequently taken off the market due to its contribution to a huge increase in pelvic infections that sometimes resulted in permanent infertility. As it turned out, a manufacturing flaw caused these infections. The Dalkon shield consisted of a main circular part that rested in the uterus. Like most other IUDs, a thread was attached to this main part. This "tail" ran through the cervix and protruded slightly into the vagina. The purpose of this thread was simply to provide a means of confirming its presence and to facilitate easy removal. For this particular IUD, however, a braided multi-filament thread was used. This gave bacteria in the vagina an opportunity to "wick" (climb) up the thread in all of its cracks and crevices into the uterus. After this was discovered, the Dalkon shield was taken off the market, and all subsequent IUDs were manufactured with a monofilament thread. The monofilament tail prevents bacteria from gaining access to the intrauterine cavity, thus virtually eliminating the opportunity for developing an infection.

Previously it had been thought that the IUD worked by preventing the implantation of fertilized eggs. Having studied this issue in depth, we now know that the mechanism of action of an IUD is spermicidal. The way this was discovered is very interesting. Researchers took a group of women desiring permanent sterilization by tubal ligation and divided them into two groups. In one group, IUDs were placed for a time prior to the surgical sterilization procedure. On the morning of their tubal ligation procedure, the women in both groups had "unprotected" intercourse. During the actual sterilization procedure, the intrauterine cavities were irrigated and the contents of the irrigant were studied microscopically. In addition, the contents within the resected segments of fallopian tubes were inspected microscopically, as well.

What they discovered was interesting. In the group that did not have the IUD, they found living, motile (moving) sperm in both the uterine cavity irrigant and the fallopian tube segment, just as one would expect. In the group that did have the IUD, they found dead sperm in the uterine cavity irrigant and NO sperm in the fallopian tube segment. Upon further research, they discovered that the device causes swelling in the endometrial cells lining the uterus. This sterile inflammatory reaction causes these cells to burst and release lysozymes that are spermicidal.

CONTRACEPTION

INTRAUTERINE DEVICE CONTINUED…

The risk of infection related to IUD use is most prominent within the first 20 days and is usually associated with contamination during the insertion process. Following the first twenty days, the risk of infection is limited so long as patients who utilize this form of contraception are monogamous. It has been found that there is an increased risk of infection with multiple sexual partners. **Some side effects associated with the IUD include cramping and heavier periods when menses have resumed** following the cessation of breastfeeding. This usually occurs for the first several menstrual cycles and then regresses, as the uterus becomes used to the presence of the IUD.

The IUD method of birth control is as effective in preventing pregnancy as birth control pills when used correctly, or tubal ligation, or vasectomy. The IUD is FDA-approved to remain in the uterus for up to 7 to 10 years (depending on which IUD is chosen) before removal is mandated. Once the device is removed, conception can take place as soon as the sterile inflammatory response resolves, which is usually very quickly (a few weeks).

The one drawback to the IUD is its expense. Insurance companies oftentimes will cover either the device or the insertion, although sometimes they cover both the device and the insertion and sometimes they cover neither one. The fee for both the device and insertion can range from $450.00 to $900.00. Compared to the cost of birth control pills, the IUD would pay for itself in approximately 20 to 24 months. **If you are interested in the IUD, please ask us about the differences between the Paraguard (non-hormonal) or the Mirena (progesterone-containing) IUD.**

DEPO-PROVERA

Depo-Provera is another alternative for postpartum contraception that is safe with breastfeeding. However, it is used much less commonly because of its known association with significant weight gain. Depo-Provera is an injectable progesterone contraceptive agent usually administered every three months. This contraceptive steroid quite effectively suppresses ovulation. It is very effective if barrier methods are not desired and the patient is forgetful about taking birth control pills daily. The advantage of this form of contraception is that it is “user-friendly.” One shot every three months is all that is necessary. Because it suppresses ovulation and does not contain estrogen, women using Depo- Provera are typically amenorrheic (no menstrual periods). This form of contraception is highly desired among women where weight gain is not a concern.

CONTRACEPTION

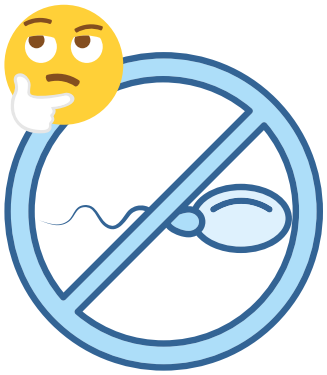
TUBAL STERILIZATION/VASECTOMY

Permanent sterilization in the form of tubal ligation can be performed after the uterus has returned to its normal size, which takes about six weeks. We generally discourage the immediate postpartum procedure—you'll have enough discomfort without adding more in a different area. If you are having a cesarean section for delivery, removing tubes at that time makes a great deal of sense, as it does not add to the recovery. If our patients desire to wait a bit, then the tubal sterilization procedure is usually performed via a laparoscopic approach. This means a trip to a surgery center and being put to sleep for the procedure. The procedure usually takes 45 minutes and is accomplished through two puncture wounds in the abdomen, one in the umbilicus and one in the suprapubic area. A laparoscope is placed through the umbilicus and another small instrument is placed through the incision in the suprapubic area. The fallopian tubes are then removed. An added benefit from this procedure stems from the fact that some ovarian cancers actually originate from cells in the fallopian tubes. No tubes = reduced risk of ovarian cancer. Recovery from this type of surgical sterilization takes about three to seven days.

Vasectomy is another form of permanent sterilization. After all, haven't you contributed enough to this process? This procedure is performed in the doctor's office and is usually completed in 25 minutes. It entails only minimal discomfort and requires no significant anesthesia other than local preparation. It is entirely possible to have a vasectomy on Friday, party over the weekend, and be back to work on Monday.

Vasectomy and tubal ligation are both 99% effective; however, some failures do occur due to recanalization of the fallopian tubes or vas deferens. The incidence of this, however, is quite low.

Should you have any questions regarding any of these methods of contraception, please don't hesitate to call and ask. At the time of your 6-week appointment, we will ask which method you would like to use, so please be prepared.



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NOTES	

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